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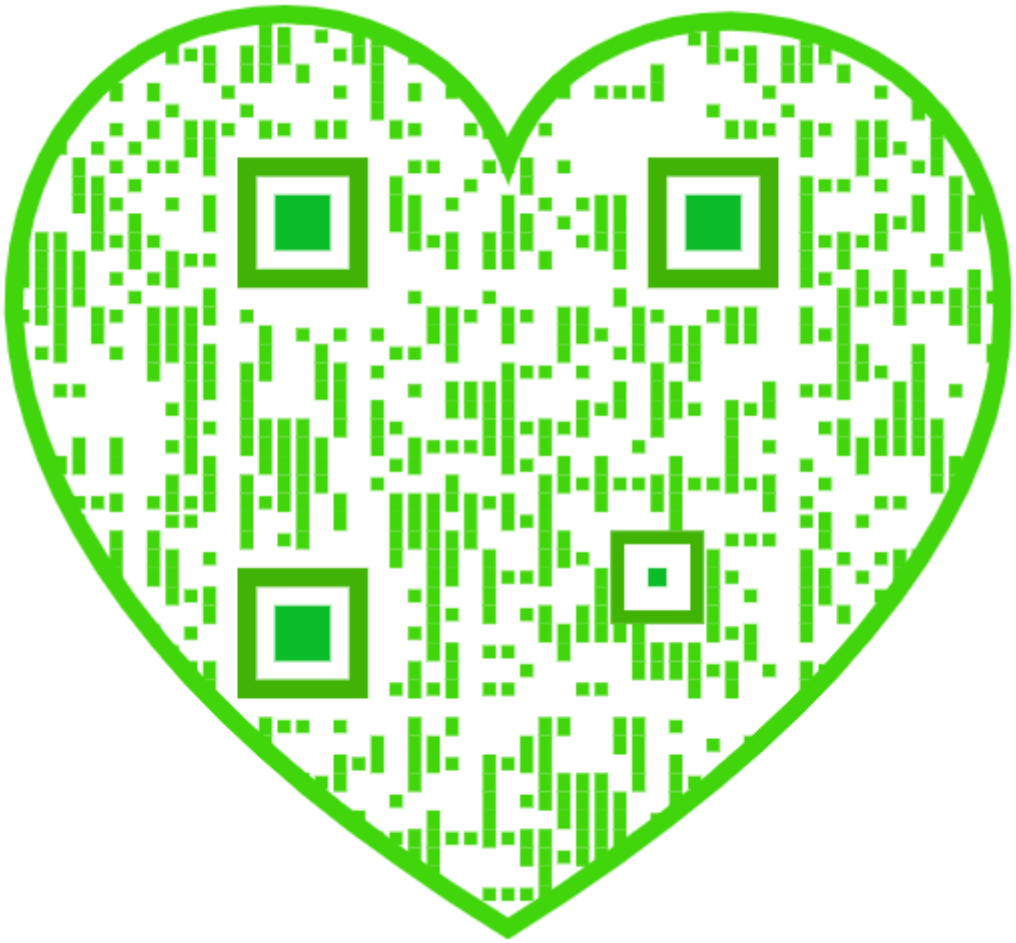

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A Sewing Course

COMPRISING

Directions for Making the Various Stitches

AND

Instruction in Methods of Teaching

BY

MARY SCHENCK WOOLMAN, B. S.

PROFESSOR OF
DOMESTIC ART IN TEACHERS COLLEGE, COLUMBIA UNIVERSITY,
AND DIRECTOR OF THE MANHATTAN TRADE
SCHOOL FOR GIRLS

FOURTH EDITION, REVISED

NEW YORK AND BUFFALO
FREDERIK A. FERNALD
1908

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MARY SCHENCK WOOLMAN

An Interleaved Edition of this book is published, in which are inserted 31 leaves of bristol-board for mounting the practice pieces made by the student. Price, $3.50 net.

Interleaved copies with sets of models mounted on the bristol-board leaves can be supplied by the Domestic Art Department of Teachers College. Price, $19.25 net.

aug. July 7, 1908.

PREFACE.

The introduction of manual training as a necessary part of education has raised sewing to an art of great importance. Outside of the practical advantage of being able to use the needle, the mental training through hand and eye has been proved to have a permanent effect on the character. The training of the hand makes it dextrous in other employments. Habits of thrift, cleanliness, patience and accuracy are inculcated, economy taught and the inventive faculty developed. Attention and the power of observation are increased by giving the lesson to an entire class at one time instead of by the old method of showing each pupil separately.

In order to get the best results, certain fixed rules must be followed; to meet this want, these brief notes are given for the use of teachers. The course is carefully graded to lead the mind gradually upward to more difficult needlework. An enthusiastic and progressive teacher can, through sewing, make freer and more capable beings of her pupils and help round out their characters.

[From the first edition, 1893.]

PREFACE

to the

SECOND EDITION.

The careful student of the trend of educational thought in the present day is impressed with the idea that it is as necessary to provide in the schools for some form of hand work as it is for academic study. From this point of view, sewing and attendant forms of household industries may be valuable, as they can present strong sociological, economic and ethical arguments for their introduction. It is not a question of preparing for a trade, it is to give mental and moral strength, to increase appreciation for the true and the beautiful, and to develop a love of doing and a desire to do for others.

This second edition of the "Sewing Course" is sent out with many added suggestions to teachers, on means of cultivating the thought, will and judgment of the classes, and for obtaining results in creative self-activity, which will help the child more capably to take his place in society.

MARY SCHENCK WOOLMAN,
Director of Domestic Art, Teachers College.

NEW YORK, *June*, 1900.

PREFACE

to the

THIRD EDITION.

In sending forth the third edition of the "Sewing Course" the author would urge anew upon all sewing teachers their need of knowing the general work of the grades or high schools in which they are teaching, and the home conditions of the pupils, that they may plan their courses of work for actual service. The educational world is waking up to the fact that the Household Arts may be of great value in the school. The well-trained teacher has brought this about by the correlation she has made between the general academic work, the art, and the handicraft courses. A series of set models may serve a useful purpose in quickly giving accurate ideas to teachers, but they have no place in school work. The logical development of the stitches is an insignificant aim in comparison with the logical development of the child. This book for teachers suggests many worth while articles which may be used in teaching the subject in the schools.

MARY SCHENCK WOOLMAN,
Professor of Domestic Art, Teachers College
and
Director of the Manhattan Trade School for Girls.

NEW YORK, *May* 23, 1905.

PREFACE

to the

FOURTH EDITION.

The fourth edition of the Sewing Course has been entirely rewritten and contains almost a new volume on teaching. This educational section has been prepared in response to the frequently expressed wish that the author would discuss this subject for the benefit of those teachers who had not taken the Domestic Art Course at Teachers College. The book was originally written for the College students to supplement their instruction by technical data. It is now in use throughout the United States. Since it was first issued, in 1893, there has been a great evolution in educational thought and still further changes are imminent. Interest in manual training has grown and is gradually being supplemented by enthusiasm in many new phases of industrial and trade education. The teachers of handwork have now a very responsible work to do. As a preparation for it they need as excellent a culture foundation and pedagogical training as any academic teacher. In addition they must have satisfactory technical experience. The author trusts that these suggestions for teaching may be of service.

The new educational views which affect the teacher of sewing have come gradually. The narrow sewing course of the early schools was first strengthened by the added requirements for training mind, emotions and habits. Soon another phase appeared and efficiency in life and social service became the goal of handwork. Again the appreciation of the many needs in American homes has called upon the teachers of the household arts to consider these problems and to aid in their solution. The awakening of the country to the condition of the vast body of wage earners has again added a demand for vocational training as a part of the public instruction and the teacher of manual arts finds her horizon again widen. To be successful she must know her subject from all sides. The four prefaces to successive editions of this book show between their lines the gradual awakening to new values in hand training in education.

Mary Schenck Woolman.

New York, *March* 27, 1908.

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NOTES FOR TEACHERS

Purpose of the Sewing Course.

This book is written for the purpose of giving to teachers the most important principles of plain sewing. Since there is not time in the courses in normal schools for each student to make every article suitable for children it is suggested that some practice work in stitches has a justifiable place. These exercises, if desired, may be retained for use in teaching, but such work, even in training schools, must be supplemented by numerous finished articles. Younger pupils naturally need practice on stitches before beginning on an article or garment, but such practice should be continued only long enough for them to gain sufficient skill for the purpose in view. The trial piece may then be discarded. It is a mistake for children to continue to make one stitch until perfection is reached before utilizing it on some interesting object. Accuracy of thought and of action are not gained by such vain and tiresome repetitions, but rather a feeling of ennui or even a dislike of the work. Teachers do not expect that each letter of the alphabet must be made perfectly before giving instruction on the next or before teaching the classes to spell. Indeed the written word is often poorly executed throughout life and yet is indispensable. By some unknown reasoning, however, many teachers of sewing insist that each stitch must be made perfectly before allowing a pupil to begin on a new one. Many will also require students to know all of the important stitches before suggesting the use of any of them to construct articles. The unfortunate fact is that they thus keep the pupils from using the knowledge they have acquired and thereby lose a powerful ally in the spontaneous handwork which is so natural to the child. Every one who attempts to teach sewing should become familiar with the stitches, by actual experience, and should take her own work to the classes to give ideas of correct construction and neat finish. These notes for teachers and the instruction under each description of stitches afford a basis for planning courses suited to various kinds of schools and to children of different ages and conditions of development. Under the descriptive sections will be found lists of materials necessary for practice and also suggestions for application. It is expected that each teacher will practice the stitches and then apply them to the making of small finished articles suitable for children and calculated to develop their natural activity and encourage them to be creative. These articles should be mounted with the practice-pieces on the bristol-board leaves.

Mounting Finished Work.

Object teaching is an important factor in the schools, and the teacher of sewing will find samples of her own hand work will greatly assist her in giving correct ideas of construction to her pupils.

Leaves for mounting finished work are inserted in the Interleaved Edition of this book. The teacher or normal student may fasten on the bristol-board leaves the articles or models made by her. Care should be taken to arrange them effectively. The McGill's paper fasteners, No. AA1, are more satisfactory than paste, and two samples can often be placed on one page. Some soft colored paper, pasted carefully on the bristol-board improves the appearance of the articles made of white material. One sample can combine a number of stitches; illustrations of this are a small towel with a hemstitched border and marked with initials in cross-stitch, with a loop of tape to hang it up; or a flannel skirt in which stitching, hemming, herringbone, putting on a band, a button-hole and sewing on a button are all used.

The Teacher.

Many qualities unite in the making of a good teacher. Her personality is most important, for her physical, mental and moral influence is ever moulding her pupils, even without her conscious effort. Her special training should be of the best. Its foundation should be cultural, supplemented by a knowledge of the problems of modern education, and by the ideals of her own Household Arts field. She should also have ample technical skill and experience. Without a professional preparation, she is too much handicapped to accomplish all that is possible in this branch of education. Furthermore, the spirit which she brings to her work will determine largely the character of her success. Much possible good will be unattained if her aim is simply to inspire her classes to complete a series of good models, or even of useful articles. Supplementary ideals are needed to make her pupils efficient for good in the world. Such ideals will require her to study the needs, characteristics and environment of her pupils, that she may develop thoughtful, responsible workers who have a worthy purpose to carry out. She must gradually bring them in touch with the problems of industrial workers also, that they may have an increasing desire to themselves lend a hand in the world's work. A teacher well prepared in her subject, with an ethical aim such as the above, will find the children in her classes growing into active, dependable women.

Sewing in the Public Schools.

Sewing was introduced into the curriculum of public schools many years ago for utilitarian purposes, *i. e.*, it was felt that girls needed to know how to sew, and as they failed to learn at home, the public schools provided this instruction. Material results were emphasized and little or no thought was given to the training of the brain through the hand. Looked at from this side alone, the work has much to recommend it, for it is of life-long use to the children. The object of the school is not, however, solely to provide a means of earning a livelihood, but

aims at "the full and harmonious development of all of the powers of the individual," that they may be used in efficient service to society. This educational foundation, however, should be such that it may serve, when necessary, as an effective basis for vocational life. Sewing may be of true worth in the curriculum if it enables the pupil to help herself, inclines her at the same time to assist others, shows her the connection of her work with the world's industrial interests, and makes her sympathetic with, and appreciative of, the army of those who work. It frequently fails, however, of its full value through lack of breadth in the point of view of the teacher. The "Sewing Course" aims to indicate lines of thought for her study and reflection through which she may increase the efficiency of her work.

Self-activity and Social Service.

Frobel's heartfelt cry of the need of training every child's natural activity if he would be harmoniously developed gave a new meaning to manual work. Psychologists studying the development of the brain, found that a complete education included training in action, as well as in thought. Gradually the entire attitude toward the training of the hand changed, as more study was given to its proper function in the school, and manual training is now felt to be as necessary in education as any academic study. The modern curriculum gives the opportunity to use the hand, will and mind together. A desire to be of service in the world comes naturally as the means for such helpfulness are increased, but the teacher has it in her power to develop higher ideals of social usefulness in each student. Sewing is one phase of manual training; it comes, or it should come, close to the interests of childhood and it offers innumerable ways by which a child may be of assistance in the home and in the school.

The Need of Child Study.

If sewing is to add to the mental and moral strength of the children, if a love of the true and beautiful is to come through it, the work must take them into account. The child must not be sacrificed to the model, or garment, by the demand of the teacher for over-accurate work, for neat adjustments at an early age, or for the stupid task. The interest and development of the child must be considered in the selection of the course. Setting her to make articles suited to her capacity and considered by her as worth doing is the only sensible method of gaining her enthusiasm and of bringing out her creative ability. The stitch should be taught as a means by which she may construct a definite article, and not as an end in itself, as is the case in the usual model work. Watch a child learning a new stitch, which will help her construct an interesting article. Her heart is in it, as the subborn little fingers are put in place, and the will power brought into play. Her whole body shows lively interest and she overcomes difficulty after difficulty in her road to success. Give the same child a set of models to make which have been arranged by the teacher apart from the interests of childhood and she will become fatigued, and instead of utilizing her own will the

teacher will have to step in, and by urging, perhaps even scolding, keep her at her tiresome task. The mental and physical development of the child must show the teacher the sort and amount of work and the best manner of teaching.

Children's Work.

In early years the child should not be allowed to do fine sewing. Primitive nations used the needle in many ways adapted to the use of children, in coarse weaving; in basketry, in which more or less rigid material was sewed together with softer fibres, such as wool and twisted bark; in mats, hats and baskets of the raffia palm fibre; in braiding; knotting; twining and netting. All of these early steps in household art make an excellent foundation for sewing, and may be used to great advantage in the primary grades, where the awakening power of the child demands work in rapid construction and large adjustments. The articles should be simple in construction and of a character to appeal to their interests. They should be worth doing. Pricked cards are sometimes used, but they are often injurious to the eyes. If they are felt to be a good link between kindergarten and primary the simplest designs should be chosen. Coarse canvas of some dull color, which will not be hard on the eyes, is a good material for children to use. The stitches may be worked in colored wools, and prove a decorative feature. Many little articles may be made from the canvas, such as needle-books, markers, blotters, napkin-rings and mats. Coarse needles and coarse yarn should be used on loosely woven material. Dust-cloths, iron-holders, pot-lifters, book-covers, primitive dress, curtains and hangings for doll's houses and many other useful and interesting things, suited to the ability of children and through which they may gradually learn to use the needle, may be made with coarse stitches. The beginning of sewing is difficult for little hands and the use of the tools needs to be taught slowly. If the thimble is not constantly used at first it is not a serious fault. Much patience is often required on the part of the teacher and also of the child to attain to the correct position of the fingers and to the use of the needle and thimble. Neither fine work nor many repetitions of an exercise should be expected. Judgment and skill are of slow growth, and the demand for them at an early age is always discouraging to the pupil, and often positively harmful. As far as possible each child should prepare her own work. Finer and more technical needle-work may be introduced after the first few years in school, but here also the practicing of the stitches should be followed by their application in interesting small articles. The child learns better by making many simple things, even in an imperfect way, than from solely repeating the stitches until each one is perfect and then later applying them.

Class Lessons and Drills.

Learning to sew is a difficult task, especially in the early grades, as the manner of using the tools is hard to master. When each child in a large class is taught individually, the patience of those waiting for the teacher's attention is soon exhausted, and discipline is apt to be poor. It is better for a teacher to give

a new lesson to the entire class at one time, and, when all have begun to work, to give such individual help as is needed. The fingers seem easier to control when the new action is practiced in unison, and many of the necessary movements may be taught in this way. The position of the fingers and needle in certain stitches, the knotting of the thread, the necessary movements in sewing, and the use of scissors may be so given by a judicious teacher that they are quickly learned. Regular drills for this purpose have been used in England, and to some extent in America. They are apt, however, to be too mechanical to be of as much value as a short attractive lesson on how to work, followed by the speedy beginning of the construction of some article by each child. A very few minutes at the beginning of a lesson is sufficient to show a new motion, while much time can be wasted in precise drill. In older grades, even where the teacher wishes to obtain original plans from each pupil, class lessons which call out thought and creativity will be found more inspiring than individual instruction alone.

Finished Articles and Connected Thought.

A course of sewing gives innumerable opportunities for the construction of serviceable and interesting things. Teachers need never be at a loss for application of any stitch in a useful article which offers excellent constructive possibilities and can be made at a very small expense. There are numerous things to choose from which are quickly made and simple enough in construction for very young children. Mats, bags, dusters, pin-cushions, needle and pin cases, whisk broom and other holders, moccasins, signal flags, sails, blankets, and simple garments or house furnishings may be made with coarse stitches, and yet be effective for use. An almost endless number of more elaborate things may be made by older children. It is well for the teacher to remember that good workers enjoy difficult tasks, and it is a mistake to give too easy work to older girls, who have had experience. A course of sewing may be so chosen that it adapts itself to different environments, to varied possibilities of expense, or to conditions which need consideration or direct assistance.

Opportunity should be taken regularly to develop social and economic thought in the pupils. Such discussions may be conducted as, the kinds of material adapted to the purpose in hand, the values of differing fibers, the consideration of cost, the elimination of waste, and the condition of the workers in the regular market engaged in similar occupations.

It is sometimes well for the teacher to center the sewing around some special subject, such as clothing to be worn by school children. Under such a topic as this the class can consider what is the most hygienic kind of dress, the proper style to use on various occasions, the best clothing at the least expense, and how to utilize simple decoration with attractive results. Whole neighborhoods may be helped by such study. The garments may be made in large or in small sizes, according to the age and ability of the children, or to the time available for sewing. They can, if desired, make every piece of clothing from combination underwear to hats and coats for out of door service. Other subjects, such as cooking,

cleaning and serving, the needs of the linen closet, historic dress, the furnishing of a room or house, uniforms and equipment for nurses or housemaids, may each suggest a new set of articles for the classes and furnish matter for discussion and study.

Correlation.

There is continual opportunity for connecting a course of sewing with the every-day life of the children at home, at school, or in society, and gradually interesting them in the bettering of industrial conditions. To do this adequately and easily, the special teacher must be familiar with the homes and lives of her pupils, and must also know the aims and subject matter of the regular school work. By consultation with the grade teachers she will know the wisest time to introduce discussions connecting the handwork with academic interests. Such subjects as the properties and values of materials, the countries growing or manufacturing them, and the development of commerce on account of the great textile industries, belong to geography and history, as well as to our industrial life. English may be turned to account in personal or business correspondence; vocabularies of materials and industrial processes; adequate recording, oral and written; and in business usages. Computations of the expenses necessary for making garments, the division of the income, the keeping of accounts, and the consideration of the cost of living, connect arithmetic with sewing. Furthermore, the decoration of articles, the beauty of materials, historic dress, embroideries, laces and textiles are fine art as well as household art interests. The school should recognize these relationships and should so utilize the handwork that it will illustrate and strengthen the study courses. In other words, sewing has a cultural background which should be utilized, not only to increase the interest in it, but also to aid in the unification of all the school subjects by a worth-while correlation. Results of value can only be obtained when the teacher of sewing studies all of these related fields for herself. Serious work on the part of a large number of the special teachers would greatly help in solving some of our greatest social problems. The improving of the home; the bettering of the working conditions of women, by bringing about adequate laws concerning them; wholesome factory conditions, and the increasing of respect for handwork and handworkers, are instances of needed reforms. The regular grade teacher cannot be expected to do this alone, for she has not studied industrial interests in her preparation for teaching. Her hearty co-operation is always given, however, to the special teacher who works wisely and tactfully with her. Forced, unnatural correlations between handwork and academic work do more harm than good. The sewing alone is of greater use to the children than when accompanied by encyclopædic information on industries imparted to the class by the teacher and called correlation. Various methods may be used to interest the classes in personal investigation. Subjects may be set beforehand, that research may be done by the classes, and either oral or written work, of an original character, may follow and serve to combine an English lesson with one on Household Art.

Textile Study in the Schools.

The Study of Textiles has been accorded a place in the curriculum of many schools on account of its educational, as well as its practical, value. Woven materials play an important part in the every-day life with which the school wishes to connect. The evolution of the modern textile industries has influenced the development of all nations so that the history of the gradual growth of the primitive into the civilized world is closely connected with changes in the textile field. The early beginnings offer excellent suggestions for courses of handwork and design. In addition, the industrial and commercial aspects of history, English, geography and arithmetic are made more real and valuable by using the textile interests in correlation. This subject may serve, therefore, as a means of unifying the school studies. Industrial organization underlies our present civilization. Conditions which affect our industries reach our social life. The textile industries are especially influenced by women, and their knowledge or ignorance as consumers are controlling factors in the nation's industrial development. It is especially advantageous in every course of sewing for girls, in either elementary or secondary schools, to introduce textile discussions. In elementary education the value of personal experience in primitive textile manufacture has been ably presented by Professor John Dewey,* of Columbia University, and by Miss Katherine E. Dopp,† of Chicago University. They advocate the reproducing of early industrial life in the school, that through it the children of to-day may have the same incentive for thought and activity which were the prime factors in developing the race. It thus leads these children to an understanding of present conditions for which our involved modern system of factory work cannot be satisfactorily utilized. The simple carding, spinning, designing, weaving and decorating, as well as many other early occupations, are interesting and call for reasoning and creativity. Ideas of simple social conditions and of the early organization of society are also given through such study. The children can, through play or dramatization, live the life of the early races, or they can reproduce on sand trays the entire community, with its industries and interests. In later education, the historic side of textiles is a part of industrial history, sociology, economics or other studies, and it may also connect practically with the sciences. In addition, valuable utilitarian ideas which will materially benefit the organization of the home, as well as react advantageously upon our manufacturing interests, may be obtained at every stage of woman's education. The knowledge of the physical construction of the fibers in use and of their properties will enable a purchaser to judge of their hygienic and warmth-giving conditions, as well as of their cleansing and laundering possibilities; and the understanding of processes of manufacture will assist the student to judge of good and bad materials, and of adulterations, to know widths, costs, and where to find the best markets. Useful knowledge of this sort should not only make women better and more economic consumers, but should give them new standards of the beauty and service of

* School and Society.

† Place of Industries in Elementary Education.

materials. This would tend to eliminate over-decoration and needless luxury in the homes. The study of factories and workrooms, and the knowledge of methods of manufacture will also bring about an appreciation for, and sympathy with, the worker, which will make for the permanent bettering of labor conditions and of society at large.

Drawing and Design.

Lessons in drawing or color should accompany the entire course in sewing. The simple plans of the first grade for ornamenting a little burlap mat, needle-case or cover, as well as the high school designs for underclothing, shirtwaists, hats, embroideries, gowns, and home furnishings require art appreciation. Drawings or color sketches should be made and applied directly to the problem in hand. Improved line, adequate decoration, correct placing, harmonious color combinations, temperance and simplicity in results should be gradually attained. The divorce of art from handwork is responsible for much of our bad taste, and as a result, the furnishings of our homes are frequently vulgar; our clothing is commonplace, over-decorated or tawdry, and our shops are filled with poorly constructed articles. The product of many of our industries is influenced entirely by the demands of women. It is necessary for our country's success that the taste and the knowledge of practical buying should be improved. The home worker, the seamstress, the dressmaker, and the milliner usually know little or nothing of art; the teacher of design has been too ignorant of the technique of these industries to be of much service, and the teacher of the Domestic Arts has given her time to her direct field, omitting the fundamental connection of applied art. It is absolutely necessary that she should now give sufficient time to the study of design to be able to improve the art of every-day life. This will again react on the industries. She should either herself give the necessary art lessons in her classes, or be able to direct the work of the regular art teacher, so that good practical results may be obtained.

The Vocational Foundation.

The early cessation of education confronts the teacher in the industrial sections of large cities. A large number of children leave school to become wage-earners the moment the compulsory school years are over (about fourteen). Many have not graduated, but stop about the sixth school year, or even before that. As the usual public school courses are planned to culminate later, the education which these young workers have received is of questionable service to them in making a living. The only gainful occupations into which they can enter, therefore, are those which require unskilled labor. These seldom give good opportunities for advance, for the skilled operatives are too busy to train the young beginners. The result is that numbers of these children drift from workroom to workroom, making only a small, inadequate wage. The girls remain a few years in the market, but find it difficult to rise to $5.00 per week, which in large cities is merely a living wage. They then marry and begin homes of their own, but, even there, are unprepared to be economic factors. They have not had

handwork enough to be good workwomen, they do not think clearly, express themselves adequately, take hold of a difficulty with any force or initiative, and they are frequently untrustworthy. Their English and arithmetic seem unadaptable to the needs of the trade, or the home. Their employers complain of them and their homes show poor management. The industries of the country, the homes, and society in general would all be benefited if they were given a different education in the elementary school. They should have a training of which they could make direct use, even if they do leave in the fifth or sixth grade. It need not be a direct preparation for wage-earning, but the teacher should plan her course of study according to the needs of the children in the different schools. It is unprofitable to give the class of work leading to entrance into the high school in sections of cities where the majority of the pupils will never even graduate from the grammar grades. In schools where large numbers of children will probably enter industrial life the handwork could be made an especially valuable factor. The teacher of sewing needs the insight and the judgment to so plan her work that a foundation may be laid which will be of service either in the trade workrooms or in the homes. She can, through the lessons in sewing and garment making, train the girls to think clearly and quickly and to execute well. She should discourage all slipshod thought and work and endeavor to develop trustworthy natures. In districts where the children usually go to work early good handwork courses, offered in the sixth, seventh and eighth grades, and correlated with their other studies, would often induce them to remain longer in school. Both parents and children value instruction which they feel will directly aid in life and will sacrifice much to obtain it. Such vocational work as this is greatly needed in city schools. The question of direct trade education is also important. Public instruction must soon meet it, for both boys and girls, by establishing special schools or continuation classes. The trade schools, under private control, which have been already started have demonstrated the value of this class of instruction. While the aim of the grammar grades is for a good foundation for life, not for specialization, the work may and should be vocational in the broadest sense, in localities of large cities providing workers for industries. The training given will thus be beneficial, whether education ends in the early grades, or whether it continues into the secondary schools. The fault at present seems to be that while the present public school curriculum is satisfactory for those who will continue their education, it fails to provide adequately for trade life which begins at the end of the compulsory school years. This subject, in all of its phases, should receive the careful consideration of every sewing teacher, as an ever increasing number of girls are going into trades which use the needle or the sewing machine.

Trade School Teaching.

If a school is seriously preparing its pupils for trade life, the following points need special thought: (1) The teacher cannot give her best service unless she knows the class of work and the requirements of the trade for which she is preparing her students. She must have practical workroom experience, either as

a wage earner or as a part of her preparation for a trade teacher, if she hopes to be of true value to her classes. (2) The course of sewing which should be given in a trade class must cover all of the stitch forms and the principles of construction, and should also give much of the application which will be demanded of such a worker in the market. Discussions of the methods used in various workrooms should accompany the lessons. (3) The conduct of the class should reproduce as nearly as possible that of the regular workrooms; skill and speed should be required. The girls should be taught to think quickly, to understand directions and to be reliable.

The difference between manual training, technical and trade instruction is not always understood. The explanations which follow give some of the principal differences in these fields.

The Manual Training School gives handwork with the idea of utilizing its power in developing or educating the individual that the hand and mind may be trained together and each help the other.

The Technical School aims to help those who already know something of a certain class of work and wish more scientific or theoretical knowledge of it. It does not purpose to take the place of apprenticeship, for the technical schools in their highest development prepare the foreman rather than the apprentice. Handwork is given to explain the science rather than to fit a student to be a trade worker. The night technical schools, numerous throughout the country, often are, in reality, supplementary trade schools. Some, however, of the so-called technical schools partake more of the nature of the manual training schools.

The Trade School is designed to prepare apprentices for a particular trade. The decadence of the old apprentice system has taken away the possibility of an adequate training for the young wage-earner in the ordinary work-shop. The trade school aims to take the place of this older form of education by supplying an economic instruction in the practical work of various trades. The trade school proper is, therefore, an enlightened apprenticeship. The main object is to help the wage-earner to become self-supporting in some direct occupation. Such schools may give all day work or they may assist those who are employed in workrooms during the day by offering supplementary instruction.

Sewing in Foreign Lands.

Sewing is a usual form of handwork throughout the civilized and uncivilized world. The form of the stitches varies little, but the principles of construction and the application in articles and garments are often entirely different. Each part of the world has characteristic handwork of its own. The American teacher who goes to foreign lands to teach and the native one, ambitious to do as the more civilized nations are doing, are apt to follow the usage of the schools of the United States or of the Continent of Europe. The better procedure would be to study first the articles and garments known and in use in such lands and select some of them for the class instruction. Such foreign stitch forms as are satisfactory should be adopted rather than the unnecessary details of our more elaborate system. When

our methods are needed and desirable, they can be used as supplementary to the native work. The life of those nations and its improvement or development should, however, be the basis for decision on courses of work. In some countries the women and girls are very deft with their fingers and many nations have developed wonderful crafts of their own; these should be preserved, if possible, unless the best reasons exist for change. It is stupefying to foreign children to be given ideas of construction entirely at variance with their previous knowledge and at the same time, little adapted to the life they are living.

Drafting and Cutting.

In the elementary school it is not wise, nor indeed is it usually possible, to teach elaborate dressmaking. It is, however, advisable that girls from the sixth or seventh grade up should have some experience in cutting, fitting and constructing the simple garments they wear or that may be worn by their younger sisters or brothers. Drafting of pattern is frequently given to accompany garment-making in the higher grades of the elementary school, although its principal use is in the high school. It is of doubtful benefit in either when it is given with set dictated rules, for it does not develop independence of thought or of action. To be sure, each girl may through it make a pattern for herself or for another, but she has usually gained little in understanding how to adjust the draft to changing fashions or how to cut and fit easily when she is away from the teacher. The real service which drafting may render has been lost in such cut and dried lessons. The good dressmaker and the able woman in her own home do not rely on drafting to make every new pattern; they are superior to it. They can take any one they have and adapt it to a new purpose. They completely cut it over or increase or decrease it where necessary, and obtain good results. The aim of a course of lessons in drafting should be to give each pupil ability of a similar character. Freedom from set rules and the knowledge of how to go to work is much more necessary than merely having a good pattern. Drafting, therefore, should be a means to an end, and not solely an end in itself. Through it the students should learn the form of the body and the way patterns are made. They should be able to appreciate good line, to utilize and alter any pattern so as to conform it to different figures or to changing styles. The elementary school cannot go far in this work, but it is important that the right start should be made. A child likes to cut her own doll clothes, and the teacher, in even the fifth grade, can help her to improve upon her crude efforts and can gradually lead her to see that certain principles when followed, lead to exactness, as well as to beauty, of result. As the girl grows older, the teacher can help her to comprehend the use of the different parts of paper patterns. She can gradually lead her up through the simple doll clothes she has cut, to the understanding of the way to draft an accurate pattern. No matter how clever a demonstrator a teacher is, she will fail to give as much help to her class, while explaining a draft, as will be obtained by each child in her own efforts toward making some pattern for her doll or for herself. The regular patented systems of cutting are of less value in the schools than the

simple free-hand ones, for, in the former, manufactured curves take the place of those drawn by hand and the means of getting results are often purposely obscure. The free-hand drawing also leads the student to better feeling for good form and line. Lessons in art should be closely connected with drafting and making of pattern. The Professional Schools of Paris teach pattern making by the modeling of the material on the figure, as they feel it leads to freedom of thought, to beauty of line, and to personal independence and expertness. A freehand drafting system may be an excellent step between the free cutting of the early grades and the pattern modeling, but it must be taught intelligently. Each girl through these lessons should gain in ability to quickly cut and fit a waist, coat, or skirt of any kind. She should gain in original ideas and in the ability to utilize any picture she sees or pattern she may have.

Household Arts in the Grades.

Handwork should begin in the kindergarten and continue to each succeeding grade of the school. This has been realized in a large number of the public school systems of the United States, and courses of manual training are to be found at present in various phases of development, for they have been introduced from many standpoints. The attaining of practical ends solely and the serving of purely educational ideals are illustrations of these varied aims. The possible subjects in handwork are unlimited, but random choice accomplishes little. The selection should serve some worthy aim beyond the making of the mere article itself.

Grade Work Based on the Industries.

The present interest in the study of anthropology has had its effect on the course of study in the schools and has given an impetus to the revival of many primitive arts as a part of the curriculum. These are excellently fitted to the needs of early grades for intense interest is easily aroused in children by discussions and illustrations from the life of different peoples. The manner of living and the crafts of primitive nations such as the Esquimaux, the American Indian and the Filipino are being carefully studied therefore, with a view to utilizing their simple crafts as school work, at least for the early grades.

The Culture Epoch Theory, which was one of the educational results of the study of the evolution of various races, has greatly helped to develop a satisfactory manual training for young children. It has been largely instrumental, also, in eliminating the often pernicious handwork of the past. At that time uninteresting models or sectional parts of some article, often requiring over-fine adjustment, were alone to be found. This early manual training of the schools dealt with but one phase of handwork, *i. e.*, manipulation, and failed to obtain the higher good inherent in the subject. Our more intelligent study of the child has shown us that such work often injured the mental, as well as the physical development. We have now, however, through the study of the occupations of primitive people, ample suggestions for real articles, simple in construction, fitted to the ability of the children and full of educational and social value in the hands

of a wise teacher. Those who have watched and taken part in this movement have cause for much satisfaction that manual training has been thus enriched. It is, however, becoming clear to the more thoughtful that the evolution is not complete, and that further study and investigation are necessary, that the handwork may serve a still more important end than merely repeating race history.

Grade Work Based on the Home.

The aim in the best schools is clearly a social one. Much is accomplished toward this end when the child works with love and interest on something dear to his own life; greater good, however, will be gained if, through the work, he learn to consider and assist others, and thus understand and sympathize with the world's work. The mere repeating of primitive arts will not accomplish this in the best way. The child's world is circumscribed. His home, his play, and his school are his world, containing all he knows of society. If he would serve, he must begin to do so where he can see the value of the service. The handwork suggested by the use of early arts alone often fails to connect with the life of to-day, or does it so indirectly that the value to the home of the increase of a spirit of true service is less than it may be; for, in such cases, the completion of the article and its connection with the past are too often the final aims of the work. The need of beginning early with classes of handwork which are in direct connection with everyday life is especially pressing in the education of girls. American life would be greatly benefited if they had a better conception of home life and were able to inaugurate improvements in home management. The strides made in industry, science and trade have not been paralleled by corresponding improvements in the methods and life of the home. The statement is familiar that the home and the school must be united, but very little has yet been done to really cement the union and cause the school to react favorably on the home. One great opportunity for this interaction lies in the proper use of handwork.

The home as a goal for the use of the simple industries will yield infinitely more to the girl than will the mere copy of early crafts without this ideal. A teacher however cannot carry out this aim satisfactorily unless she has given some study to household conditions and to the possibilities of improvement in them. Strange to say, a thoughtful, scientific investigation of the entire domestic situation has hardly yet begun, and few teachers are prepared to deal adequately with it in the class work. The very familiarity of every one with home life has made its study difficult. It should be viewed from such standpoints as the primitive industries once practiced there and which have been retained, or can be still utilized; the art possibilities; the repairs to clothing, furniture and utensils; the economics of consumption; the better management with respect to expenses and service; the relation of the home to society at large; and the comprehension of, and sympathy with, the constant labor needed there. A study such as this will lead the teacher to see how the handwork in every grade of the school may develop industrial intelligence, and may also serve an excellent purpose in the home. In addition it should lay a good foundation for trade life, if the girls desire to become wage-earners.

It is not possible to lay out a course of handwork suited to all conditions of the school or of life. The outlines which follow are suggestions for articles suited to different ages of children and which may be used to develop interest in the home and in society. Each teacher must study the environment and capacities of her children before selecting the exercises which will best serve her aim. She must, when possible, correlate with other subjects of the grade, and must see to it that the ideals she gives become actualities in the girl's life, at home, at school, or in her contact with the outside world. The pupil should gradually increase in skill and gain a wider interest in, and grasp of, her relation to a well-managed home and of her responsibility for conditions in the industrial world.

Many of the articles mentioned in the outlines are as fitted to one grade as another, the manner of making constituting the difference. The teacher should select from the lists the things she desires, and supplement them with others which are appropriate, as there is an infinite possibility for new and interesting combinations.

In the first three, or perhaps four, grades the boys and girls should be together in all of their classes. The handwork should offer many varieties of industries, and the regular teacher should conduct the work. Later, the girls can continue with the household arts in a group by themselves, while the boys take the handwork fitted to their interests. A special teacher will probably be required for these later grades, for much skill and knowledge will be needed. In large cities a supervisor is appointed who plans the work and either teaches the grade teachers how to give it or has her own special staff to teach it. The lists given below are suggestions for application primarily in sewing, but also refer to other lines of household art handwork which are closely connected.

Handwork for the First Four Years.

In the first four school years the handwork should be selected from many fields. It should never be confined to one branch of industry. The following occupations all offer excellent opportunities for the choice of interesting and developing work for early grades: coarse sewing; cord and raffia work; spool knitting; crocheting; knitting (finger and coarse needle); weaving; primitive textile industries (cleaning, carding, spinning, dyeing, and bleaching); calico printing; housekeeping and family life; housebuilding; paperhanging; decorating and furnishing; paper cutting; cardboard construction; pasting; drawing, designing and painting; basketry; clay modelling; toy and game making; woodwork; festival preparation (Thanksgiving, Christmas, Washington's Birthday, birthdays); coöperative work on sand trays (such as Filipino, Esquimaux, Robinson Crusoe, keeping store and neighborhood occupations).

SUGGESTIVE SEWING FOR THE ELEMENTARY SCHOOL.

First Grade.

Coarse canvas mat.
Needlebook of card-board.
Fringed towel.
Napkin-ring of canvas.
Book-marker of canvas.
Iron-holder.
Pan-lifter.
Broom-cover.
Scrub-cloth.
Dust-cloth.
Pin-cushion.
Book-cover.
Desk-cover.
Bag of canvas.
Penwiper.

Second Grade.

Table cover decorated with coarse stitches.
Making and decorating moccasins.
Doll's blanket and bed-spread.
Making articles for work-basket.
- Needlecase.
- Scissors-guard.
- Pin-cushion.

Weather flags and flags of nations.
Articles for the ironing table.
- Iron-holders.
- Cover for ironing-board.
- Clothes-pin bag.

Bags for carrying books or for gymnasium shoes.
Dress of primitive people.
Pencil-case.
Mat, curtains, hangings for doll house.
Book-cover.
Bead-work on chain or belt.
Stuffed animal and doll cutting and making.

Third Grade.

Bags with decorations in coarse needlework.
Sewing-on buttons.
Mending sweaters.
Ball covers.

Sails.
Marble-bags.
Signal-flags.
Coarse appliqué for portfolio, book-cover, or table mat.
Bag for gymnasium shoes or books.
Braiding and decorating belts.
Sunbonnet.
Decorating woven material for pillow.
Bead-work for decorating articles or for chains and belts.
Roller towel marked.
Coarse work-apron.
Dress of peoples; such as Indians, Greeks, Romans.
Trimmed hat of raffia.
Doily.
Table center.

Fourth Grade.

(I) Articles which may be needed for use in the
1. Home, such as simple upholstery, rugs, curtains, pillows, towels, washcloths, tray-cloths; simple garments, table-covers, napkin-rings, button-bag, needlebook, pin-cushions, dust-cap, work-aprons.
2. Laundry — such as bags, holders, covers.
3. School — working-aprons, bags, book-covers, notebook-covers, pencil-cases.
4. Play — tents, dramatic work, toys.

(II) Repairing, mending sweaters and sewing-on buttons.
(III) Decoration and art — book-covers, pillows, tray-covers, appliqué on table and bureau-covers, needlebooks and pin-cushions.

Fifth Grade.

I. Sewing.
(I) Doll's house.
Articles which may be needed such as mattress, sheets, pillow-cases, cover for couch, wicker chairs, waste-baskets, curtains, scarfs and covers.
(II) Doll's clothing.
Hat, cap, sack or sweater, underclothing and outer clothing.
(III) Articles for baby — bib, sachet, flannel jacket.
(IV) Home.
1. Repairing — mending stockings and sweaters, patching clothing, cane-seating chairs.
2. Neatness — shoe bags, laundry bags, cooking and work-aprons, comb and brush-cases, dusters, wash-cloths, clothes-pin apron, sweeping-cap.
3. Linen closet — sheets, pillow-cases, towels with hangers

doilies, marking linen with ink or needle, simple lettering, napkins.

4. The girl's own room, belts, cuffs, collars, needlecase, emery-holder, pin-cushion, pin-case.
5. Supplies for emergency, flannel bag, bandages, poultice.
6. Fitting out a work basket — pinballs or cushions, needlecase, emeries, scissors-guard.

(V) Millinery — making and trimming simple raffia hats for dolls.

(VI) School — badges and banners, school-bags for books or gymnasium shoes, coöperative weaving for rug for school.

II. Pattern making.

Free cutting of patterns for articles, for doll's or baby's clothing.

III. Crocheting and knitting — wristlets, caps, hoods and jackets.

Sixth Grade.

I. Sewing.

(I) Aprons, cuffs and caps for cooking, embroidery apron.

(II) Neckties, collars and cuffs for dresses, embroidered or hemstitched.

(III) Simple underclothing, combing towel or short kimono jacket.

(IV) Towels, workbags, tray-covers and doilies embroidered and marked, with the needle, hemstitched cloths, doilies and napkins, table-covers with appliqué design.

(V) Pads, sachets, small travelling-cases for embroidery silks, money, handkerchiefs, veils or gloves, large cases for shirtwaists or night-dresses.

(VI) Costumes of historic times in small size or for dramatic work.

(VII) Darning, patching and repairing on real articles.

(VIII) Embroidered book-covers, table-covers, aprons, sofa-pillows, chatelain pocket.

(IX) Bags for laundry, broom, shoes, sponge, or traveling.

(X) The care of tools and supplies with holders for keeping them.

II. Crocheting or knitting.

Bedroom slippers, tam o'shanter of wool.

III. Home.

(I) Study of rooms and their care.

Useful things to make for them.

(II) Care of clothing, brushing, cleaning and folding, choice and cost.

(III) Textiles — materials, their cost, properties and values.

IV. Laundry — How to launder simple pieces of table linen and embroidered dress decoration. Cost of laundering elaborate articles and clothing.

V. Millinery.

Hats of raffia, lingerie, or bought straw hats simply trimmed.

VI. Cutting.

Simple pattern making and free-hand drafting of articles and clothing.

NOTE. — In sections of large cities where the children will leave school early to go to work, it is well to give sewing which may be of immediate use to them either in the market or in their homes.

Seventh Grade.

I. Sewing and Machine Work.

(I) Apron or bag — straight stitching.

(II) Garment making.

Underclothing, children's pinafores and simple guimpe dresses, baby clothing.

(III) Embroidery and decorative work.

Traveling-case for money or jewelry.

Table and tray-covers.

Opera-glass case of leather, chamois or silk.

Napkins and doilies, pillows and book-covers.

(IV) Repairing, darning and patching garments of cotton and flannel.

Darning stockinet, linen and silk.

Repairing worn places in sleeves, under-arm and elbow.

Frayed skirts cut and rebound, lengthening skirts.

(V) Personal use.

Stocks, collars, cuffs, and handkerchiefs hemstitched and embroidered.

(VI) Millinery.

Renovating of old materials, curling feathers, bow and frame-making, trimming.

(VII) Cutting and fitting.

Learning the use of bought patterns, freehand drafting, cutting and fitting clothing.

(VIII) Textile suggestions — Visits to Museums.

Embroideries, tapestries, laces and drawn-work of foreign nations.

Cleansing and dyeing.

Primitive examples of coloring, dyeing and designing.

Visits to stores.

Choice of textiles.

Cost of textiles.

(See note under VI grade outline.)

Eighth Grade.

I. Sewing and Machine Work.

(I) Dressmaking.

Summer blouse, graduating dress, shirt-waist suit, children's dresses and baby-clothing.

(II) Embroidery and decorative work.

Stencilling and block-printing in materials for book covers,

scarfs, hangings or clothing, lingerie embroidery for hat or blouse.

(III) Making over, cleaning and repairing, ripping, cleaning, dyeing or renovating, recutting, lengthening and making over dresses.

(IV) Upholstery.
Chairs, cushions and couch-covers, repairing mattresses or upholstered chairs.

(V) Cutting and pattern making — use and adjustment of patterns. Pattern modelling and economical cutting.

(VI) Millinery.
Frame making and trimming.

(VII) Coöperative work.
Cleaning and making over a dress, upholstering a chair, weaving a rug or stencilling a hanging for the school.

(VIII) Textile and social suggestions.
The old textiles, as used in embroideries and weavings for costume, historic costume, simple decorative designs, present costume for women (good and bad points), factory and sweat-shop garments, preparation for employment, wages, conditions. Betterment.

(IX) The Home — Organization, improvement, accounts, how to live. (See Note under VI grade outline.)

The Lesson Plan.

Every lesson should be carefully planned beforehand that the subject matter may be reviewed and the best method of teaching may be decided upon. A teacher whose method is solely that of dictation, or else to show each pupil individually, will not accomplish as much as will the one who relies chiefly on class discussions combined with such guiding and suggestions as may be necessary. Clearer ideas of construction and a widening of interest in industrial questions, important for each child to know, will also result from a carefully prepared discussion. This holds good even if the subject has been taught many times before. No two classes are alike and the best results are obtained only when a lesson has been planned in relation to the characteristics and needs of any group. Handwork becomes automatic to the expert and the details of the way by which the end was reached fade from the mind and often require an effort to recall. Therefore, the teacher should test beforehand her own knowledge of the necessary steps in the making of any article, that every detail may be clear. Such a review will enable her to choose the best order of procedure in any particular instance and to eliminate unnecessary or confusing ideas. Economy of effort follows the working out of the contingencies beforehand, whereas in the unprepared lesson unexpected knowledge or ignorance will lead to waste of time in unprofitable discussion. The sewing teacher should make her lesson plan as carefully as does the teacher of academic subjects. She should look for such results as individual initiative on

the part of each pupil, enthusiasm in her subject, and a gradual increase of intelligence in industrial matters. Every lesson, or series of lessons, therefore, should be preceded by some such survey as the following — (1) The most important aim to be accomplished, (2) The complete article which will best serve this purpose and (3) The connected thought which may add to its efficiency. A conscientious investigation of these points will quickly make it evident that the kind of handwork which is best for any class depends on a variety of circumstances, no matter how good the series of exercises, which a teacher may have in mind, it will seldom prove of like advantage in two groups of equal age, or even in the same grade in two successive years. And again, if perchance the series she has followed before is again the best, the method of presenting the subject and the thought which should be connected with it will seldom be the same. Lists of articles and garments need to be supplemented or changed continually, and the manner of decorating or constructing must also keep in touch with the present if the greatest impetus to work is to come through the lesson.

After the selection of the aim of the lesson, and the handwork best adapted to realize it, there remains the arrangement of the background of thought which she wishes to develop in the class. A knowledge of the relation of handwork to the world's development and, again, of each individual to the industrial conditions of to-day come with difficulty to the child if she must find them out for herself. The teacher can render valuable service by so presenting these subjects that interest is aroused and practical results are assured through the development of intelligence in every day needs. She has a wide field open to her of both cultural and industrial interests, but must choose those only which are in close relation to her aim, which will give worth-while results, and can be dealt with satisfactorily in brief discussions. The short period which most schools devote to handwork must be well utilized, actual work in construction should cover the greater part of the time, leaving ten or at most fifteen minutes for all presentation of new subjects.

There are many ways of giving handwork lessons. The teacher must each time select the one best adapted to secure the results she wishes. She must review in thought the knowledge already existing in the class upon which she can lay the foundation for her new lesson. She must plan a series of good, leading questions to bring out the constructive ideas she wishes, or such related facts as are directly needed by her. Having thus in thought prepared her ground, she is ready to sow the new seed, and must plan to present such salient points as will give clear ideas to the pupils and by the aid of which they can quickly begin on the construction of the new article. To aid in emphasizing the points she wishes to make she will usually find it advantageous to select illustrations in materials, pictures, articles, garments, blackboard or demonstration-frame designs which she can use in the class.

When a teacher has clearly in view her own many-sided aim, she is ready to formulate a special aim for the pupils which may, from the start, gain their enthusiasm. The ethical, industrial or social aspects of her plan are too abstract for

them, and are for her alone. Children are interested in what they are to do, and she must present the subject of the day to them in a few interesting words. She should give it, if possible, in the form of a problem, which from the first may arouse their curiosity and set them to thinking. Even a dull subject may be so stated that it appeals to the interest of a class, and they are eager to try it.

The necessary materials and tools must also be decided upon and made ready before the class hour. As the teacher reviews her subject matter and surveys such conditions as the needs of the quick, the backward, the new or the returning children she can make mental notes of her equipment needs.

Following each lesson there must be a review of results that the next one may emphasize the good points or overcome the poor ones.

As an illustration of how a simple sewing lesson may be planned in accordance with the above suggestions the following outline and running comment are added —

Lesson Subject — Making of a dust-cloth.

Grade V (fifth school year),

Ages 9–10. Number 30.

Ability. — Class already know fairly well such stitches as Running, Hemming, Cross-stitch and Blanket-stitch.

Environment. — Poor section of large city where lessons in neatness and cleanliness are greatly needed.

Outside Preparation.

Materials — Cheese-cloth and other soft cotton cloth, white or colored, sufficient for the work. Some of it cut into ½-yard squares and the rest uncut.

Cotton thread — white and colored.

Zephyr (single) — in colors.

Tools. — All necessary for cutting, measuring and sewing.

Illustrations. — Examples of several materials which may be used for dust-cloths, such as cheese-cloth, unbleached muslin, and dark unfinished cotton cloth. Dusters finished in various ways. Blackboard or demonstration frame designs showing dust-cloths finished with the stitches already known to the class.

Note. — The pupils are supposed to have work-boxes or bags containing their thimbles, needles, needle-cases, pin-cushions and, if possible, scissors.

The Teacher's own aims:

1. The cutting, folding and making of a dust-cloth.
2. The reason a well-finished cloth is better than one with ragged edges.
3. The best materials for the purpose.
4. Various ways a dust-cloth may be finished.
5. The danger to health in dust.
6. The way to dust.
7. The care of the dust-cloth.

8. Disciplinary training.
   (1) Careful listening and thinking.
   (2) Ready, accurate replies.
   (3) Neat work.
   (4) Responsible action showing the promise of executive ability.
   (5) No waste of time or motion.
   (6) Increasing satisfaction at well-done work.

PREPARING THE CLASS.

A few suggestive questions — the class response will bring out further questions.

How many have used a dust cloth?

Have you cloths like this at home? (Showing various kinds.)

Why do we have to dust?

What is the best way to do it that we may leave the room clean?

What need is there for care in the making and keeping of a dust-cloth?

What materials are good for them and why?

THE STATEMENT OF THE AIM TO THE CLASS.

How many know the way they would like to make a dust-cloth that will work well; look well; wear well and wash well?

You already know how to make the Running, Hemming, Cross-stitch and Blanket-stitch. Each girl may choose one of these materials for the cloth and select one of the stitches she knows to finish the edge. Each must give her reasons for the choice to the rest of the class.

The first ones who decide and have good reasons may help me with the cutting, which is not yet complete.

THE LESSON.

The Selection.— What material will each select and why? (Takes note of the various decisions.)

The Cutting. How to Measure.— How large shall we cut the cloth? How can we be sure the edge is straight so that we can finish it more easily and neatly?

Accurate Folding. Holding in the Ravellings.— How shall we fold in or cover the raw edges? What stitches will best hold the edge from ravelling?

Selection of Stitches. How to make the ones Chosen.— Class selects and tells reason for choice and how to proceed with the work. The teacher brings the children who decide first and wisely to the cutting table (a desk will be satisfactory), and puts them to work to complete the cutting.

Giving out the Necessary Materials.— Will the cutters when they have completed that work help to give out the cloth, thread and yarn?

THE SEWING.

The teacher answers questions, or walks about the class noting difficulties or giving advice.

THE CLOSING OF THE LESSON.

How many have completed the dust cloth?

How many feel their work is strong and good?

What material have you at home which can be used for a dust-cloth?

If you have no material at home what will you buy? How much should it cost?

How many could make one at home?

How will you go to work?

Will each one lay her work on her desk and will all walk quietly about looking at each dust-cloth and judging of its worth?

Questions on results.

Careful putting away of the work.

The Cost of Maintenance.

The cost of introduction and the yearly maintenance of a course of sewing varies greatly in the different cities of the United States. The tools and the materials can be brought from home by the children and the subject can be taught by the regular grade teachers, if it is desirable to eliminate all expense. There are many objections, however, to this method, as the materials are apt to be unsuitable and the result of the teaching unsatisfactory. The subject can be made extremely valuable, even where the children provide their own equipment, if the School Board can afford a good supervisor of sewing. Such a supervisor can train the grade teachers to conduct the work; study the needs of the families of the children; decide on course of sewing which will include the very articles desired in the homes, and send for samples of material from which the classes can choose, having computed the cost. The children can thus be taught to shop wisely, as as well as to work skillfully. Even the poorest families are willing to spend money on needed articles. The salary of a good supervisor of sewing ranges from $1,000 to $3,000 per annum (eight to ten months), but is a wise expense. In those cities where materials are provided by the Board of Education the cost of maintaining courses of study usually ranges from .01 to .15 per capita per annum. The first amount given covers only the price of needles and practice cloth; the last amount, if the school system is large and the money economically expended, provides for much application in small articles made from inexpensive material. If full-sized garments are to be made it is usual for each child to supply her own material.

The Equipment.

The necessary equipment in tools must be provided, either by the School Board or by the pupils. Each child must have her own thimble and a pair of scissors. She can make herself a pin-cushion and a needle-case. Tape measures, emeries, wax, stillettos, and such scissors as buttonhole, very fine cutting, or long shears, should also be on hand, but need not be given to every pupil. If the appropriation is small, the teacher can carry the tools in her supply box from grade to grade, thus making one set serve for all classes. Some means of keeping the work should be provided, substantial boxes are preferable to bags or envelopes, as the work and tools can be kept with greater neatness.

A good inexpensive equipment in tools and necessary articles for a class of 20 children can be bought at retail price for $9.00. This would purchase

20 boxes (cloth-covered) at 7c	$1.40
1 supply box	.35
24 prs. small school scissors at 12½c	3.00
6 prs. good cutting scissors at 50c	3.00
1 pr. buttonhole scissors	.35
½ doz. tape measures	.20
½ doz. emeries	.20
2 doz. thimbles	.50
	$9.00

The Sewing Laboratory.

In the early grades of the school the sewing is usually conducted in the regular classrooms. A special room for the later grades is desirable, however, for cutting, fitting and work on large garments can be more readily undertaken. Such a room should be light, well-ventilated and cheery. The furniture can be very simple, but should be suited to its purpose. It should contain work-tables; a cutting and ironing table; comfortable low broad-seated chairs for the hand-work; stools for use at the cutting table; cabinets for holding stock, or for finished or half finished work; cases for the exhibition of illustrative material and for finished garments; sewing machines; a blackboard; a gas stove, and several pressing irons. It is well also to add other articles illustrative of household art, such as old spinning wheels, reels or winders, processes of manufacture, or representative handwork of various kinds.

A useful sewing laboratory can be furnished at very small expense. To equip it for twenty pupils simply, but not handsomely, however, will cost at least $285.00. The following list will show the necessary expenditures for an adequate equipment. Extra exhibits and the cases for them will add to the cost, but they can be provided from time to time as the means will allow.

Teacher's desk	$ 9.00
Revolving chair	2.50
Wooden chairs — 2 doz	24.00
6 tables for work — long kitchen	15.00
4 sewing machines	120.00
Wardrobe	35.00
Locker	25.00
6 skirt forms	12.00
6 waist forms	3.00
Stove — oil or gas	2.50
3 flat irons	1.00
Poles and curtain — for fitting room	15.00
Long looking glass	20.00
	$285.00

The Annual Exhibit and Supplementary Work.

Annual exhibits are held in many of the public and private schools. These serve many purposes such as (1) the encouraging of the pupils, (2) the interesting of the parents, and (3) the training of the public. Handwork is usually a great feature of these occasions. It has become customary, therefore, to retain all of the completed work of the classes until the end of the school year. This has an unfortunate side for it eliminates effectually any opportunity for immediate utilization of the articles made. It is useless to plan each article for some direct service to the home, or to the school, if the purpose cannot be carried out and the result discussed when the interest is at its height. Each school must consider for itself the best way to meet this difficulty. The following plans have been carried out in different cities. (1) Some students in each class will sew more rapidly than others and supplementary work must be provided for them. It is well to select, for this purpose, articles of especial interest as they serve as an impetus to the slower members of the class. The quicker ones can work for the exhibit by repeating in a more interesting form the exercises just completed or by being allowed to plan and to make some attractive new articles. (2) After a series of articles have been made in a class a vote can be taken by the members as to which ones will be retained to represent them at the exhibit. These few can be kept to be returned to the makers after the exhibit, or material can be given to each worker to make a similar article at home. (3) Purchasing from the children the work desired for the exhibit.

Warp and Woof.

The threads running the entire length of the material are called the warp threads. The woof, weft or filling threads are those which cross and interlace with the warp and form the selvage on each side of the goods. The warp threads are each as long as the cloth will be and they are put first in the loom. The woof thread is thrown back and forth across the width of the warp threads by a shuttle and is one continuous thread. The warp threads are usually stronger than the woof threads as they have to bear a heavier strain. This strain is apt to make them straighter than the cross threads, which fact can be clearly seen in the ravellings of some kinds of cloth. Garments are usually cut along the length or warp way of the cloth as they wear better than when cut across the goods. When material is torn across the warp threads it gives out a shrill sound but a dull sound accompanies the tearing of the woof threads. It is necessary sometimes to know which is the warp way of a piece of cloth from which the selvage has been removed. The eye can often tell one from the other by the softer, less wiry, and less even appearance of the woof. The way the threads break and the sound they give also indicate the difference.

Sewing for Boys.

In the first three or four years of the school it is well for the boys and the girls to be taught the same kinds of handwork. The selection should be made from many fields and sewing (coarse) should be included among the crafts chosen.

Experience has proved that boys are greatly interested in sewing when it is connected with their pursuits. Such constructive work as bags of coarse canvas for shoes or books, ball covers, sails, flags and badges, moccasins, sweater mending, sewing on buttons and simple repairing are illustrations of interests which concern both boys and girls. As sewing is one of the most important of the industries it is well for boys to gain some practical experience of its difficulties as well as of its usefulness. They will thus be better prepared to appreciate the conditions of labor in occupations employing the great mass of wage-earning women as well as large numbers of men. Sewing, itself, will also prove useful to them now and later and the class of neat adjustment which it requires has proved advantageous as a preliminary training of the hand for many of the skilled occupations of men.

Illustrations on the Board or the Frame.

The blackboard may be of much assistance in the presentation of a lesson. An illustration of the way a stitch is made, or several designs for an article may be drawn by the teacher before or during the class period. The illustrations in the Sewing Course are for suggestions for board work. Any teacher can train herself to do this simple drawing, even if she has had no art training, but a trained hand can make such illustrations a powerful ally. The demonstration frame offers another means of showing the way a stitch is made. It is a large embroidery frame, covered with coarse canvas and raised on a standard so the class can see it. The teacher makes the stitch on the canvas in large size with colored wool as she describes it. Such frames can be made easily by any carpenter or by boys who are taking manual training.

Different Ways of Making Stitches.

Opinions differ as to the best way of making many of the stitches. The teacher should know all of these methods, but it is not necessary for her to confuse with such details the minds of children who are learning to sew. In giving a new lesson, she should select the form of stitch which she prefers and teach that. If it happens that any one of the class has already learned to make the stitch in a different, but satisfactory, manner, it is better for her to continue to work in the way to which she is accustomed. When older students are preparing for teaching, or for trade work, they should consider the various methods of procedure, as they may be called upon to know them in their chosen vocation. Left-handed children, unless corrected very early, would better continue to use their left hands, unless the teacher desires to make them ambidextrous.

Neat Finish and Rapid Work.

Beginners should work slowly at first but dawdling should never be allowed. The teacher must herself discover the best way to keep each class sewing industriously. In some groups the setting of a time limit for the completion of articles is an incentive, while in others the very impulse to rush through is followed by slackness and poor results. The finish of each exercise must be as beautiful as the

child should or can do. Frayed edges and unfinished interiors are not only ugly but indicative of a lack of care in the worker. The most simple article may have the beauty of neatness, and even a child can be trained to see it. A class should learn to work well without any waste of time. Rapidity is desirable if the result can be satisfactory.

The Tape Measure.

The use of a tape measure or a rule should begin early. Very young children can be taught to make their own measures by marking off the divisions on strips of paper or bristol board. They can keep the accurate ones in their workboxes for use later. Older girls should gradually learn to depend upon themselves when small dimensions are required. This is especially important when such students expect to enter any of the trades requiring careful measurements. Such accurate judgment leads to economy of time which has frequently a money value.

Length of Thread.

Children usually take too long a thread in sewing. They must be taught the right length, which is about one half or three quarters of a yard, though in basting a longer thread is advisable. The usual directions are to measure the thread from shoulder to shoulder, or across the body from waist line to shoulder, or from the end of the finger to the elbow. The thread should never be bitten off, for it harms the enamel of the teeth. Fine cotton thread may be broken, but coarse thread would better be cut. It is well therefore for every child to have her own scissors in her workbox.

Fastening the Thread.

As children seldom make knots neatly, they should be taught how to fasten the thread strongly without them. The knot, however, should be practised, for it is necessary in basting, overcasting and gathering, and useful always. A small, well-made knot, concealed in the material is permissible. Skilled workers usually prefer to use them as it saves time.

Position in Sewing.

The position for sewing is an upright one, bending the body forward from the waist, if necessary, but never hanging the head downward to the work. Physical injury results from such an attitude, and it is also impossible for a pupil to be as attentive and alert when sitting in a slouching position.

Cleanliness.

Clean hands and clothing should be obligatory in sewing classes, for good work may be spoiled by lack of neatness. The teacher of sewing should take occasion to discuss hygienic living, and should train her pupils to realize the direct moral effect of care and cleanliness of person and product.

No. 1. CARDBOARD SEWING.

MATERIALS FOR PRACTICE.

Cards. Coarse Wool Tapestry Needle.
Cotton or Linen.

Application—Needlecase or blotter.

Designs pricked on cards and followed by the needle are often used for the first steps in sewing. In this way a child may begin to use the tools and gain control of her muscles. When they are utilized, scope should be given for simple creative thought in the decoration of the work and in the planning for its use. This may be the foundation for the designing of simple articles for dress or for household use, and also for cultivating taste in every-day life. In the kindergarten this class of sewing is frequently seen. In the first primary grade the children are generally ready for a step beyond, but cardboard may have its use in recalling the work of the previous year. In the kindergarten the threading and knotting are usually done by the teacher, but in the primary grades the children can gradually learn to rely upon themselves.

Cards in varying sizes and colors are on the market already pricked, or the teacher can prepare her own cards. Pricking pads and needles can be purchased. Any simple design made by the teacher or the children may be used. Running, stitching and cross-stitch are good ones on the cards. Knots must be used to hold the thread. The teacher may have to fasten off, as this is often too difficult for children.

Practice.—Take two cards with a simple design on each; carry out these designs with one of the simple stitches. Fasten off by tying a knot in the wool and letting it slip up to the hole; or else put the needle through the last stitch on the wrong side in such a way that it will tie the wool into a knot.

Suggestion.—Very pretty needle-books can be made by enclosing soft flannel leaves between the cards. The leaves may be pinked on the edges or finished with the blanket-stitch. Blotters, bookmarkers, book-covers and penwipers may be made in a similar way. The teacher should encourage the making of original designs and plans for attractive and useful articles. Children are full of devices and only need encouragement and direction to express themselves adequately.

No. 2. CANVAS WORK.

MATERIALS FOR PRACTICE.

Burlap, Java, or some similar canvas. Colored Zephyr, or Wool. Tapestry Needle.

Application.—Mats, rugs, bookcovers, bags or needle-books.

Soft, coarse canvas is an excellent medium on which to teach young children how to use the needle, as it does not require too careful work for them. The form of the stitch can be studied, decorative effects can be easily secured, and very attractive, useful articles can be made from it.

Suggestion.—In the first grade burlap canvas may be used as the first textile. Numerous articles may be made out of it. Stitches may be used to decorate it attractively; if it is to be fringed, the form of the overcasting-stitch is good; it may be worked on the burlap and the edge fringed afterward. The blanket-stitch may be used where the edge is to be kept from raveling. Several rows of running-stitches and cross-stitches make an attractive border, or other stitches may be used for this purpose. The stitches should always be coarse. In canvas where the holes, though distinct, are near together a number of holes should be skipped. Soft canvas is better than tightly twisted stiff canvas. Java canvas, in some soft color, may be used late in the first year or in the second year; needlebooks, penwipers, portieres, tablecovers or postal-card cases, may all call forth ideas worth carrying out. Suitability of color, decoration and material to the object in hand should be a prominent feature in the lessons.

Class teaching is an advantage, for all may thus have a feeling of common purpose and be aided by the free expression of opinion; even though the general class exercise is the same, individuality may be constantly appealed to in carrying out designs or in the selection of the kind of article which will be made of the canvas.

No. 3. WEAVING.

MATERIALS FOR PRACTICE.

Cards (two), 4x2¾ Inches. Double Zephyr, or Wool. Flat Bodkin, or coarse Tapestry Needle.

Application.—(1) Cards ready for weaving can be purchased or the classes can prepare their own cards in connection with their number work. Rugs, bags, hoods, muffs and sweaters can all be woven on cards by slight changes in the shape of the cards. (2) Simple looms of wood can be made by any of the early grades. Portieres, rugs, hammocks, covers and mats can be made.

Use.—Weaving is adapted to the ability of even very young children. They are interested in the process and also in its connection with the manufacture of their clothing. The method of darning worn material can be taught through weaving.

This subject may be made valuable to various grades of children, and if rightly presented will serve to increase thought as well as skill. The teacher should understand the principles and simple terms of weaving that she may develop clear ideas of processes of construction and widen the interests of her class.

Practice.—First Card. Prick at both ends of one of the cards ten or a dozen holes which shall be directly opposite one another. Thread the needle with wool and make a knot in the end of it. Bring the bodkin or needle through the card in the first hole at one end, and then take a stitch across the card to the hole opposite. This will make a long stitch across the face of the card. Take a short stitch on the back into the next hole, and again across the card in a long stitch; continue this until all the holes are filled, and then fasten off the thread. These long stitches represent warp threads, or the threads which are placed first in the loom. The woof, or filling, is now to be put in. Begin at one end, going under and over the warp threads, until the warp thread on the other side is reached; return by going over the last warp thread, and forming the selvage, and alternate the stitch across to the place where the woof began, continue going back and forth, pushing the threads close together to make a solid piece of cloth. Be careful to keep the cloth the same width.

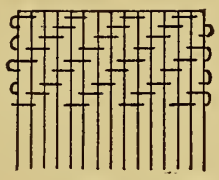

Fig. 1—Twill Weaving.

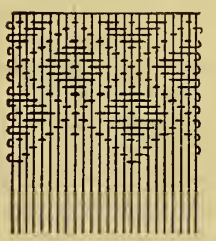

Fig. 2—Pattern Weaving.

Second Card. Prepare the second card the same way as the first, but increase the number of holes. Put in the warp threads as in the first model; the woof or filling should now be inserted in such a way over and under the warp threads that a pattern may be formed. See Figures 1 and 2. A simple twill may be used. Pattern is the result of the way the woof threads intersect the warp. Simple alternation does not make a pattern. Let each teacher make a design of her own; she can practice first, if she wishes, with the cut strips used in kindergarten weaving. When she makes a design she likes she can use it on the second card. The warp threads can be a different color from the woof. Several colors can be used. She can mount the two woven pieces on the bristol board pages with or without the cards.

Suggestion.—Primitive races began some form of weaving early in their development. Such elementary hand work can be adapted readily to children and the product is interesting and useful. The looms should be simple in construction and very plain weaving with coarse threads should be attempted at first. Soft loosely spun threads, such as rug yarn, roving, which can be bought from spinning mills, or lamp-wick make good woof threads. Children who have woven strips of paper in the kindergarten will easily understand how pattern is made. The teacher should discuss with her classes the making of different kinds of cloth. Pieces of loosely woven material or canvas should be ravelled out by the children that each may see the way the threads cross each other. Examples of full width cloth should be at hand to illustrate various patterns and the selvage. Each child should note the warp threads, running lengthwise of the goods; the cross or woof threads, which bind the warp threads together and which in turning back form the selvage at the side. Such simple terms in cloth construction as warp beam, cloth beam, shuttle, harness, heald, heddle, batten, and treadle should be used from the first. Knitting, as used in the manufacture of sweaters and stockings, should be contrasted with weaving. Little knitters can be made of large spools with pins or thin nails surrounding the hole at one end. Toys like this can be purchased by any teacher if she has never seen one of these devices and the children can be taught to make their own. It is a customary thing for children to make such knitters and to use the product for horse-reins or for mats. The knitting is done by passing zephyr or yarn through the spool to the end containing the pins, and then by winding it twice alternately around each pin and again once around outside of all of the pins. The material is made by taking the loop on each pin and slipping it over the head in regular succession and by passing the worsted around the outside of the pins whenever a complete circuit is made. Lessons in weaving and knitting should be always connected with the manufacture and darning of clothing. Weaving may be practiced first on cards: simple or elaborate patterns can be made as desired. Each child should, however, try to make a pattern of her own. For later practice an old slate frame, from which the slate has

been broken, may serve for the loom by putting small brads or nails along either end, stretching the warp threads back and forth on these and by weaving in the woof threads across. The first or second grade pupils can readily make for themselves wooden looms like the frames. A sample of each of the various card looms, on which such articles as muffs, hoods, sweaters and bags are made, can be purchased by the teacher. Each child can be taught to make similar looms from these simple cards. Third and fourth grade children often find great interest in making looms and in weaving the articles. More elaborate looms for plain cloth can be made in an oblong box. A couple of sticks or spools are placed at each end, to represent the beams on which the warp thread is fastened. A heddle can be made of a stiff visiting card with a series of alternate slits and holes cut in it for the warp threads to pass through before they are fastened to the cloth beam and after they have been attached to the warp beam.

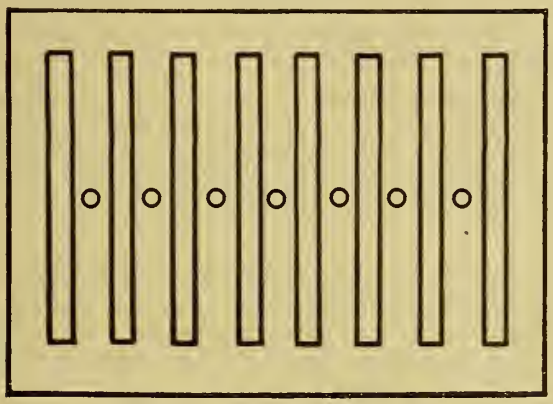

FIG. 3—A CARDBOARD HEDDLE.

The heddle has as many slits and holes as the cloth is to have warp threads. After the threads are fastened to the warp beam every other one is passed through a slit and the alternate ones are threaded through the holes. By pressing down or drawing up the heddle the sheds are made through which the woof threads are passed. After each woof thread is inserted the threads should be battened or pushed together to make a solid, even cloth. This can be done with the heddle or with a comb or with a coarse needle. A shuttle can be made of a stick or a piece of card on which the woof thread can be wound. It will pass between the separated warp threads. Small looms for school can be purchased.

The Todd Hand Loom—$ .30—$1.00—Minneapolis, Minnesota.

The School Loom—$1.50—Domestic Art Department, Teachers College, New York City.

The Hooper Colonial Loom—$ .75—Milton Bradley Co., New York City.

These looms are useful for demonstrating the subject to a class. If a teacher cannot make her own, it is well for her to purchase one of those already on the market or to have some one who can work in wood make one for her. It is always better for the classes to make their own either as a co-operative or individual exercise.

No. 4. FOLDING A HEM.

MATERIALS FOR PRACTICE.

Crinoline or Paper, 5x5 Inches (2 pieces).

Application.—Duster or Washcloth.

Rule.—A hem is made by folding a piece of material twice over. The depth of the first turn depends on the material; it should be just deep enough to secure it from fraying. In fine muslin it may be less than ⅛ of an inch; the second turn is regulated by the requirements of the garment for which it is prepared. In order to turn a deep hem accurately, a gauge or a card notched at the proper depth may be used. A fold is held in place as it is turned by creasing it with the finger and thumb, or if this stretches the cloth, it may be folded between the fingers and pinched. The material should be held up in the hands as the folding and creasing are done, and not laid on a table or desk. In a narrow hem the second fold just covers the first. Square corners should fold one over the other. In a wider hem the corners may either be squared or mitered. If the former, and the material is thick, an oblong of cloth should be cut out, as in preparing for Miter No. 1. If the latter, see Miters No. 1 and No. 2 below.

Practice.—Take two pieces of crinoline or paper, fold a narrow hem on each side of the four sides of one piece, and a half inch hem on each of the four sides of the other piece. Turn two opposite sides before folding the other sides over them. This will make regularity at the corners. Miter the two diagonal corners of the wide hem, using Miter No. 1 for one corner, and Miter No. 2 for the other. Cut an oblong from under the square corners of the wide hem.

Suggestion.—The folding of hems may be given to little children. It is well for them to understand the tape measure and make one for themselves before they begin the folding. The marking and folding must be done carefully. Manila paper or crinoline are good for the first practice. The paper should be raised in the hands for folding. Samples of woven material which may illustrate to the children the varying depths which must be allowed in the first fold of the hem, on account of the fraying of the cloth, will help to make this lesson interesting and useful. Dusters of cheesecloth can be made by the first and second grades. The folds can be held sufficiently well with the coarse running-stitch made with wool or zephyr. The older girls should use the various miterings (No. 5) at the corners of the pieces on which they practice the folding.

No. 5. MITERING.

MATERIALS FOR PRACTICE.

See Nos. 4 and 6.

Application.—Dust-cloth, doiley or holder.

To miter is to change a fold from having a square end at the corner to an abrupt angle in which one fold will exactly meet the one at right angles

to it. The superfluous material may be cut out after the hem has been accu-

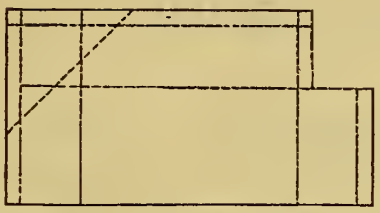

FIG. 4.—TWO FORMS OF MITER.

FIG. 5.—MITERED CORNER.

rately folded. The name is derived from the miter or high head covering worn by certain church dignitaries.

No. 1. By cutting an oblong from the under fold and then turning back the corner into an abrupt angle (see Fig. 4, *a*).

No. 2. By cutting a triangular piece from the muslin at the corner, the base of which will be ⅛ of an inch above the meeting of the creases made by the top folds of the hem. Turn down the ⅛ of an inch mentioned for the first fold. The sides of the mitered part may exactly join, or one side may lie under the other (see Fig. 4, *b*).

PRACTICE.—See folding; hemming; overhanding.

Mitering may be applied in any article where the corner is formed by one hem folding over the other. It improves the appearance of corners by removing unnecessary cloth.

Nos. 6, 7 and 8. RUNNING.

MATERIALS FOR PRACTICE.

Unbleached Muslin 6x3½ Inches.	White or Colored Cotton, No. 60 or 70.	Needle No. 8.
White Muslin 5x2½ Inches.	White Cotton, No. 80.	Needle No. 10.

Application.—Duster (See No. 4). In combination with other stitches (See No. 23).

Use.—For basting, joining breadths of material, gathering and tucking.

Fitness.—It is rapidly executed, strong enough to be used in a seam where the strain is not great, of a form which enables the materials to be drawn up on a thread as in gathering, and easy of removal, as required in basting.

Varieties of the Stitch.—Plain running whether large or small; basting, regular and irregular; gathering, including gauging and shirring.

Rule.—For Plain Running. Each stitch and space must be of the same length; the stitches follow each other consecutively; the number of threads taken up by the needle depends on the stuff used, and the required fineness of the stitch. For very fine running, as few as two threads of the material may be taken up. It is not necessary, however, to count the threads; the eye may be trained to judge the correct length. The position for holding the work is with the thumb and first finger of the left hand, while the needle is inserted with the right hand. The thimble should be against the needle, the thumb pressed on the needle, and the first finger back of the needle on the other side of the cloth. The left hand pushes the cloth on the needle. When proficient the needle is seldom removed from the cloth during the progress of the work. Unless the knot can be made very small and can be well concealed, it is better to begin without one. In the latter case take a double stitch which may be covered by the first stitch showing on the right side; finish off with a double stitch on the wrong side in the first space back of the place from which the thread comes out; this will strongly fasten the thread under a stitch and will therefore not show on the right side.

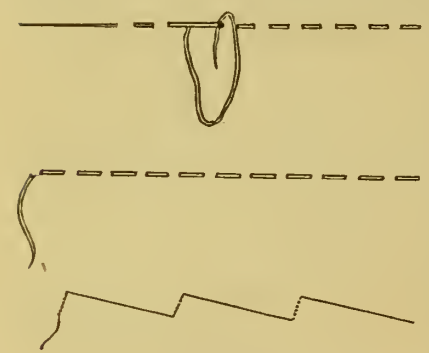

Fig. 6.—Running, Gathering and Basting.

Rule.—For Basting. To hold together two or more pieces of material until a strong stitch can secure them. Begin with a knot. (1) Regular basting is plain running made with large stitches. It is used where careful

basting is reqnired (See Fig. 6, *a*). (2) Irregular basting. The first variety of it is used for preparing for further sewing either by hand or machine, where there is little danger of the material slipping apart and a straight line of direetion is of benefit. The stiteh eonsists of one very long rnnning stiteh showing on the surfaee, and a short stiteh taken through to the surface again (See Fig. 6, *b*). The second variety of irregular basting is used when the eloth or some heavy material is to be basted together for maehine or hand work. It is stronger than the first variety mentioned. The stiteh eonsists of one very long running stiteh and two or more short running stiteh es. The third variety of irregular basting (see Fig. 6, *c*), is used in dressmaking, especially in holding material to the lining. The stiteh eonsists of one long slanting stiteh on the snrfaee and a short slanting running stiteh through the material. The position of the hand in basting is very free as the stiteh is long. It cannot be held as for fine running.

Rule.—For Gathering. To draw np material on a previously inserted thread. By this means fullness may be inserted into a narrow spaee. In certain garments width of material is required to give the limbs full play, but to keep the garment in plaee the material must be eonfined within narrow limits. This is aeeomplished in gathering. (1) Regular gathering is a plain running stiteh. Two or more lines of running stiteh es of the same size may be so plaeed that the stiteh es in one line are exactly above or below those on the other line; when drawn up this form of gathering is ealled gauging. Two or more lines of running stiteh es of the same size may be plaeed one below the other with no attempt to make the stiteh es in one line fall direetly under those in the line above. When this form of gathering is drawn up it is called shirring. (2) Irregular gathering. When the material is to be stroked after gathering, or when a large amount of thick material is to be brought into a small compass, an irregular rnnning stiteh is better than a regular one (see Fig. 6, *b*). For stroking twiee as mneh material should be covered by the needle on the right side of the material as is taken up by the needle. In very fine material short stiteh es should be taken; it facilitates the work of gathering if previous to taking the stiteh es, the edge of the material where the stiteh es are to go is turned down and ereased. Make a knot in the thread and take through the crease the irregular gathering stiteh; when this is finished the gathers must be placed. Draw up the gathering thread tightly, and seeure it around a pin. Begin at the left side, and with the fingers plaee the gathers as neatly as possible; then take a coarse needle or pin and earefully stroke every gather straight along the woven threads, pushing it under the left thumb and forefinger and pineh ing it; no seratching noise should be made, as this shows the material is being injured. The upper part of the gathers must also be laid in place. In some materials the hand stroking is sufficient. The thread should be a little longer than the length of the part in whieh it is finally to go (when a long gather is to be made, as for a petticoat, the material should be divided into four or more parts and a new thread taken for each part). Fine thread donbled is better for gathering than one single eoarse thread as the two are less apt to break than the one.

For dress skirts, gathering is often done on single or double material whieh is quite thick. In this ease two or more lines of irregular gathering stiteh es may be taken, the stiteh es in one line being direetly under those in the other, and the gathers drawn into the length of the band withont need of stroking. The stiteh will eonsist of a small amonnt taken up by the needle

and a large space covered by the needle so that the cloth will be drawn up in the folds.

PRACTICE.—Basting. Take the square of crinoline folded into hems on its four sides (see No. 4), and baste down the hems with colored cotton or take a piece of unbleached muslin, 6x3½ inches, turn one raw edge along the length into a ½ of an inch hem and then turn the same sized hem on the two short sides, making the corners square or, if desired, using the miter (see No. 5). Baste this hem all around near the edge of the fold with an even basting stitch* Across the raw edge of the practice piece of unbleached muslin, ⅛ of an inch from the edge, make a line of fine Running Stitches. Do not fasten off the thread, but cut it one inch from the last stitch. Put a knot in the end and let it remain in that way. Put in another row, ⅛ of an inch below the line of fine running. See that each stitch and space in the second line is directly under the stitch and space in the top line. This will indicate the way gauging is done. If more practice is desired in basting, two long strips of unbleached muslin may be basted together with the irregular basting stitch.

Gathering. Take a piece of white muslin, 5x2½ inches, turn down the raw edge about ¼ of an inch from the top and crease it so as to show the line along which the gathering thread is to run. Double No. 80 white cotton and put a knot in one end. Take through the creased line an irregular gathering stitch (see Fig. 6, *b*), covering over less than ⅛ of an inch and taking up about one-half of that amount. This will prepare for fine stroking. Draw up the thread and stroke according to the rule for stroking.

SUGGESTION.—Running is one of the easiest stitches for little children to learn. They can make it first on canvas with wool and a tapestry needle in some attractive design (see No. 2), later they can do coarse running or basting on muslin with cotton thread. The stitch is strong enough to make a duster or washcloth by holding the hems with wool or heavy thread or it can be used for seams and hems in soft materials and thus enable the children in early grades to make simple little articles, doll's clothes, or primitive dress. Every lesson should mean something to the children—i. e., basting should not be a mere comparison of the forms of the stitches which may be useful for teachers, but is of little help to children, but they should actually baste in the way such work should be done. The younger pupils can baste together material for the older ones to sew on the machines. The running stitch can be used in combination with other stitches in such articles as aprons or bags (see No. 23), and can also be used for gathering. It is always difficult for young children to take more than one stitch at a time, but they must not thrust the needle in and out as they would in cardboard, but learn to slip it along easily.

The running stitch is often taught by following outlines of objects traced upon muslin—this is not as good a way as those already mentioned, for it does not give the correct use of the stitch. Elaborate, pictorial outlines, followed by a fine running stitch are hard for the eyes, unnecessary, as the moment the work can be done satisfactorily for the age and development of the child, something new should be attempted, and a bad lesson in taste, as the decorative elements are unsatisfactory.

*Colored cotton may be used for basting in the first practice piece of the running stitch, if it is desirable for the eye to see the regularity. Basting which is to be taken out should not be made with colored cotton, as it is liable to crock.

Nos. 9 and 10. STITCHING AND BACKSTITCHING.

MATERIALS FOR PRACTICE.

Bleached or Unbleached Muslin, 4x2½ Inches (2 pieces). Colored Cotton, No. 60. Needle, No. 9.

Application.—Beanbag or pan lifter. See also Nos. 21, 22, 23.

Use.—Where strength is required for seams, holding bands, tapes and hems. The stitching stitch is also used ornamentally.

Fitness.—As double stitches they are strong and adapted to purposes where durability is required as in seams.

Rule for Stitching.—The stitch is worked from right to left on double material. First baste carefully together the two materials; the basting may serve as a guide to the worker, and also keep the materials from slipping apart. A seam should be made far enough from the edge of the cloth to avoid the danger of raveling. Begin by a small knot or by a few running stitches on the wrong side, which may be held down later by the stitching stitches, and bring the thread to the right side of the material about ⅛ of an inch from the end of the cloth where the work is to begin. Take a short stitch back on the upper side of the cloth and a stitch twice as long forward on the wrong side. When the thread again comes to the surface make a stitch back to meet the stitch already made. The effect on the right side is a series of short stitches, one meeting the other (see Fig. 7, *a*), and on the wrong side a cord-like effect, made by the folding over of the long stitches (see Fig. 7, *b*). This is especially the fact if the stitch is made very carefully. Hold the work over the first finger of the left hand, and slant the needle toward the left shoulder.

Fig. 7.—Stitching.

Rule for Backstitching.—The same rule applies to backstitching as to stitching, except that the stitches on the right side, instead of exactly meeting have a space between as they go but half way back (see Fig. 8). This makes the stitch on the back three times the length of the one on the right side. The names of these stitches are often confused, as the terms are used indiscriminately. The explanation is given that the name of the stitching stitch was originally backstitching, and the other stitch was called half-backstitching; for brevity each stitch was relieved of half its title, and confusion of ideas resulted.

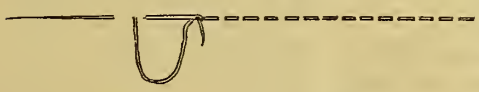

Fig. 8.—Backstitching.

PRACTICE.—Take two pieces of unbleached muslin, 4x2½ inches, baste them carefully together into a seam ¼ of an inch from the raw edges. Make a line of stitching one-half way across in colored thread, directly above or below the basting line. Let the stitches be small enough for strength, but large enough for their regularity or irregularity to be distinctly seen. Having made one-half of the seam with stitching, the backstitching may be used for the other half, so that the appearance of the two stitches may be compared.

SUGGESTION.—It is not necessary at first to insist that a beginner should make the stitch mechanically perfect. If it is even and strong enough for its purpose it should be accepted and utilized on an article. Stitching is an attractive and simple stitch on canvas, and can be thus given to young pupils. They should notice the rope-like effect at the back and also that it may be marred by a change in the way the needle is inserted. Care in this coarse work will help in gaining the technical skill needed later. Stitching is not difficult, for the movements are simple and practice soon renders them easy.

Coarse, soft, unbleached muslin is good for practicing the stitches. A basted or creased line may help in the first attempt to make an even seam. A pencil line, a stamped stitch or a drawn thread should not be used as a guide, for the judgment of the children should be trained. It is better for them to make mistakes and correct them than to be given helps which do not develop their own powers. The stitch should be utilized as soon as it can be made sufficiently well for a seam, as the skill needed will come better through making some article than by many repetitions of the practice piece. Doll's clothing, clothing cases and bags of various kinds may be made.

No. 11. OVERCASTING.

MATERIALS FOR PRACTICE.

RAW EDGES OF THE PRACTICE PIECES. COTTON No. 60. NEEDLE No. 9.

APPLICATION.—On the seams of articles or garments. See No. 23.

USE.—To keep the raw edges of materials from raveling.

FITNESS.—The form is adapted to hold threads from raveling without making the raw edge stiff.

RULE.—The stitch is loose and slanting, and taken over the raw edges of material. It is made usually from right to left (some prefer to make it from left to right). The stitches are of equal size, the depth and distance apart depend on the character of the material, the object is merely to keep it from raveling (see Fig. 9). Begin with a knot. In seams conceal it between the raw edges. Hold the work over the first finger, or the first and second fingers of the left hand. Place the needle over the raw edges and through the material, slanting it toward the left shoulder. The stitches should always be the same distance from the raw edge and the same distance apart. When a new thread is necessary, insert the needle as if to take a new stitch, withdraw it, and

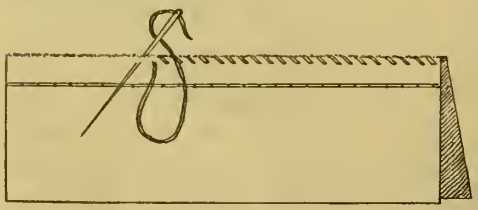

FIG. 9.—OVERCASTING.

fasten off on the wrong side where the hole was punctured by the needle. Begin the new thread with a knot, insert it between the raw edges, and bring the thread to the right side where the punctured hole was made and continue the stitch as though it had never been interrupted. When turning a corner, put the first stitch around the corner in the same hole as the previous one; this will make a V-shaped stitch in the corner and a neat turn.

PRACTICE.—On any of the former practice pieces. Let the stitch be small, and as far apart as will be consistent with the danger of raveling. Seams may be overcast together or separately; in the latter case the seams should be pressed apart after the work is completed. Overcast bias seams from the wide end to the narrow, as they are thus less apt to ravel.

SUGGESTION.—Overcasting is an attractive stitch on canvas; it is easy for little children to learn and may be used by them on burlap mats to keep the fringe from raveling. It is better to make the stitch before fringing out the burlap. The blanket stitch may be contrasted with overcasting as a means to hold raw edges. It is well to give the children a choice in the way of finishing mats.

It can also be used in making an iron holder or pan lifter. Take two squares of denim, turn narrow folds ¼ inch on the four sides of each so that when the two squares are laid one upon the other they will match in size, lay a piece of woolen cloth or thin ingrain carpet between the two pieces, baste them together, so that the raw edges are inside, with large stitches. Overcast the two pieces together using coarse linen thread of a contrasting color. After the stitch has been made on all four sides, return in the opposite direction, thus making a coarse cross-stitch. In the pan lifter sew a piece of tape about ½ a yard long to one corner with the stitching or overhanding stitch (see No. 33), so that it may be fastened to the belt of the worker.

Overcasting is a freehand stitch and often requires much practice to accomplish it easily. It should finally be done very rapidly. All articles and garments having raw edges inside should be finished by overcasting before laying them aside. If the practice pieces are to be kept they also should be neatly overcast.

Nos. 12 and 13. RUNNING AND BACKSTITCHING.

MATERIALS FOR PRACTICE.

BLEACHED OR UNBLEACHED MUSLIN, 4x2½ INCHES (2 pieces). COLORED COTTON, No 60. NEEDLE, No. 9.

APPLICATION.—See Nos. 9, 10, 13, 20, 21 and 22.

USE.—For seams and other purposes where some strength is required.

FITNESS.—It is rapidly accomplished, and fills a place between the weakness of the running stitch and the strength of the stitching and backstitching.

RULE.—The work is done from right to left. It is held as in the stitching stitch. There are various forms of it. The number of running stitches between the stitching or backstitching may vary at will, according to the strength required. There are two forms of it which are especially useful.

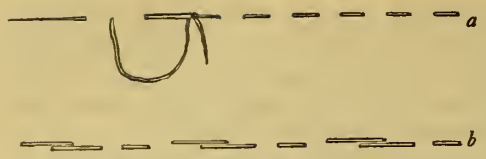

FIG. 10.—RUNNING AND BACKSTITCHING. FIRST VARIETY. *a*, RIGHT SIDE; *b*, WRONG SIDE.

No. 1. This form of the stitch is two running stitches and one backstitch (see Fig. 10). It has the effect of a line of running stitches, on the side toward the worker, and makes an attractive finish. It is used for seams. Begin with a small knot, or fastened in the seam. Take two or more running stitches, which can be counted on the side toward the worker, and then twice the length of one of the running stitches on the needle, and a backstitch will cover half the space. Pass needle forward under the backstitch and ahead the length of one running stitch, and bring the needle to the right side again to begin a new running stitch.

No. 2. This form of the stitch has two running stitches and one stitching stitch. It is desirable in the fell to have the wrong side of the stitch attractive, as it is that part which shows on the completion of the work. Care is needed in the fastening of the thread at the beginning. Take a careful double stitch on the side on which the work is done, or fasten with a small knot between the raw edges of the seam. Take two running stitches, and bring the needle to the right side as if for a third; instead of continuing, take a stitch back to the previous running stitch, and bring it forward on the wrong side across the last running stitch, and then to the right side in the same place the former stitch came through. This will make one stitch over the other on the wrong side. Fig. 11, *b*, but the effect is the running stitch. Three stitches meet on the right side, Fig. 11, *a*.

FIG. 11.—RUNNING AND BACKSTITCHING, SECOND VARIETY. *a* RIGHT SIDE; *b* WRONG SIDE.

There is another form of stitch frequently used. Take several running stitches and a stitching stitch which will meet the last running stitch. Pass the needle behind the stitching stitch and ahead the length of a running stitch, and bring it to the right side for the running stitch again. This form is not as neat in appearance as the others.

PRACTICE.—Take two pieces of bleached or unbleached muslin, 4x2½ inches, baste them carefully together into a seam ¼ of an inch from the raw edges. Make a line of backstitching (form No. 1) one-half way across, directly above or below the basting line. Continue the remainder of the seam with form No. 2. Practice probably will not be needed on the third variety of the stitch. The French seam is often made with No. 1 and the fell with No. 2.

No. 14. HEMMING.

MATERIALS FOR PRACTICE.

Unbleached Muslin, Colored Cotton, No. 60. Needle, No. 9.
6x2½ Inches.
White Victoria Lawn, White Cotton, No. 100-150. Needle, No. 10-12.
4½x1 Inches.

Application.—Washcloth, handkerchief, apron, kimono. See No. 23.

Use.—A means of finishing the raw edges in clothing and other articles such as aprons, dusters and towels.

Fitness.—The double fold of material and the slanting stitch make a strong finish.

Rule.—The stitch is worked from right to left on the edge of a folded hem. When the hem is well turned down and when necessary carefully basted, lay the work across the first finger of the left hand, with the fold turned toward the outside of the hand. Make a small knot and conceal it under the hem or point the needle to the right into the extreme end of the folded hem, and draw through all but a little end of thread, which must lie along the hem to be sewed in with the first stitches. Now point the needle toward the left, first into the material and then through again into the edge of the hem. Make slanting stitches. (The hemming stitch is sometimes made straight with the hem instead of slanting; it is less strong in this way.) Uniformity of slant and size are more important than small stitches for beginners. If pupils are taught to notice carefully, they will observe that in a correct position the two thumbs

Fig. 12.—Hemming Stitch on Canvas.

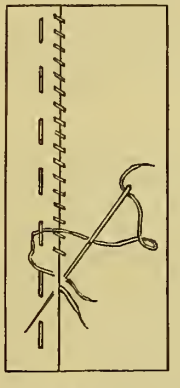

Fig. 13.—Hemming. Taking of New Thread.

are at right angles with each other. When the thread has been pulled through the fold on the wrong side, be particular not to begin the next stitch directly under it, but a little in advance. The stitch is composed of two parts, slanting toward each other, and in close hemming forms a tent shape, the two sides of which are equal. (See Fig. 12.) The needle should go fully through to

the right side if the material is to be laundered, or it makes an insecure stitch. The stitch must be even, but threads should not be counted. Care must be taken in beginning a new thread in the middle of a hem. If the fastening of both new and old threads cannot be neatly made in the hem break the old thread off short, pull out a stitch or two, leaving the end between the fold and the material, and begin a new thread in the fold where the last stitch was pulled out; hold down the ends of both old and new thread with the first stitches, letting them lie along the fold. Fasten off by taking two stitches in the fold over the last stitches taken. To avoid pricking the finger, loosen the work a little as the stitch is taken.

For hemming on silk, chiffon or very sheer cotton material the stitch is made differently so that it will be almost invisible on the right side. In such cases a very long slanting stitch is taken on the wrong side, while the needle takes up on the right side as little material as will hold the hem in place. Sometimes, catching one half of a single thread of the cloth is sufficient to hold down the material.

Practice.—First practice piece. Take a strip of unbleached muslin, 6x2½ inches, fold ⅜ inch hem along the two short sides and across one long edge. Square the corner nearest to the point where the hem is begun, cut out the unnecessary cloth from under the fold. Miter the other corner, according to Miter No. 1. Baste the hem carefully with white cotton. If the cloth is cut and folded exactly, it is easier to make the stitch even. Begin the work at the extreme left hand. Hem along one short side to the square corner. (In hemming across the square and mitred corners, do not allow the stitch to go through to the right side.) Put the needle through the hem without going through to the right side, overhand neatly the fold to the under fold, and begin the hemming stitch again at the point where it reaches the corner. At the mitred corner put the needle through the cloth to the extreme outer point, and hem along the mitre and then along the remaining short side of the practice piece. The work on this practice piece should be done with colored thread, that the weak points in the stitch may be seen and criticised.

Second practice piece. Take a strip 4½x1 inch of white Victoria lawn, or some fine muslin. Cut one end into a point. Turn in the narrowest hem possible along each of the long sides, and across the pointed end. Hem with white cotton No. 100, and the finest hemming stitches.

Suggestion.—Hemming is a difficult stitch to learn, as it requires neat and accurate adjustment; it is not well for young children to attempt it on fine cotton cloth. As decoration it is very attractive; children in first and secondary primary grades may utilize it on canvas with colored wool and gain ideas of its form and accuracy which will make it easier for them later to learn to make it on muslin, or they can make a coarse stitch with colored wool on cheesecloth for a duster.

For the first practice on muslin, the stitch should be made rather coarse. When once learned it is easy to make it small and accurate.

The pupils should be given articles to work on as quickly as possible, even if they can only make a large and irregular stitch at first, improvement will come more rapidly than on practice pieces. The very interest they feel in the work will increase their critical spirit and their desire for better effects. Handkerchiefs, aprons, sheets, and sails may be made entirely of the hemming stitch.

Running, stitching and hemming are so universally utilized in articles of everyday use that any child who has learned them, is able to be of use to herself and to others. It is in the hands of the teacher to suggest uses for them by showing the classes hemming on garments, by giving various articles to construct and by encouraging free expression of opinion to develop ideas connected with them.

Nos. 15, 16 and 17. OVERHANDING.

MATERIALS FOR PRACTICE.

No. 1. Narrow Striped Gingham, 4x4 Inches.	White Cotton, No. 80 or 100.	Needle, No. 10 or 11.
No. 2. Damask, 4x4 Inches.	White Cotton, No. 80 or 100.	Needle, No. 10 or 11.
No. 3. White Muslin, Two selvage strips, 4x2 in. Torchon Lace, ½ in. wide, 9½ Inches.	White Cotton, No. 80 or 100.	Needle, No. 10 or 12.

Application.—Pinballs, holders, napkins and cases of various kinds. See Fig. 40.

Use.—To so fasten together two pieces of material that the joining will scarcely be visible, yet the seam will be strong, as in a patch; uniting seams and selvages for underclothing and bed linen; hemming table linen and sewing on lace.

Fitness.—The close stitch is strong, while the form makes it almost invisible.

Rule.—Place together and baste the two pieces of material to be overhanded. If the edges are raw, a small fold should be turned on each piece; if selvages, they can be placed exactly together. The direction of the sewing is from right to left (it is sometimes worked from left to right). The form of the stitch is a slanting line meeting a straight one. See Fig. 14. It is better to work the stitch on the wrong side of the material, as it places the slanting part of the stitch on the wrong side. The straight part falls in the direction in which the threads are woven, and thus shows less. In overhanding a patch to a garment, however, it is easier to insert the patch from the right side, the slight imperfection arising from the showing of the slanting part of the stitch is offset by the greater difficulty of setting the patch in satisfactorily from the wrong side. In overhanding, the material is held horizontally in the left hand, with the edges lying along the first finger; the thumb and first finger keep the material in place; the right elbow should be raised from the side, and the needle should point to the chest in each stitch; a knot may be used, but often interferes with a neat finish. The thread can be fastened down by the first stitches, in which case begin by pointing the needle to the

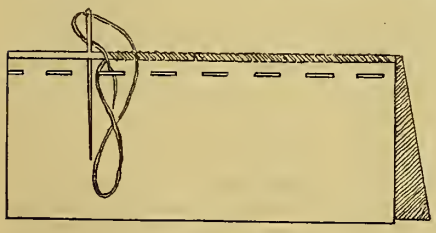

Fig. 14.—Overhanding.

right, and taking the first stitch in the fold at the extreme right end. Leave an end of thread along the fold, to be fastened down by the first few stitches. The stitches should be a couple of threads deep and should not be crowded, that a flat seam may result. This is especially important in selvages, as, if the stitch is too deep, it makes an ugly ridge. In very fine work when a new thread is necessary the short end of the old one may be taken out of the fold nearest the worker and a new one inserted in the same hole; both threads should lie together between the folds or selvages to be held down by the next stitches. Finish off by sewing back a few stitches. Take the basting thread out and open the seam with the nail. It should lie perfectly flat and the stitches should be scarcely visible.

Practice.—First practice piece. Overhanding a seam. Take a piece of narrow striped gingham, 4x4 inches, cut it apart between the stripes about an inch from one side; turn narrow folds on the cut edges, matching the stripes so that the pattern will be perfect on the right side; lay the right sides together and baste if necessary. Overhand together according to the rule for overhanding. If more practice is needed cut from one of the corners of the practice piece a diagonal 1½ inches along the straight sides; cut from another piece of the same kind of material a bias piece to match in pattern and overhand together, being careful not to stretch the bias edges while sewing.

Second Practice Piece.—Napery stitch, or overhanding on linen. Ordinary hemming is not strong enough for damask, and overhanding is used in its place. Take a piece of damask 4x4 inches, turn as narrow a hem as possible (the narrower the hem the better the effect). When the hem is turned turn it back again on itself the exact width of the hem; overhand the fold to the main body of the material.

Third Practice Piece.—Overhanding selvages and overhanding lace. In bed linen and underclothing, selvages are frequently overhanded together. Take two selvage strips of muslin 4x2 inches, overhand carefully together, not taking too deep a stitch, or an ugly seam will result. On completing the seam, fold ⅛ inch hem along two adjoining sides of the practice piece, mitering the corner. (See Miter No. 2.) Overhand narrow lace along these two sides. The lace should be held toward the worker; it should be held loosely, but not full, if it is held too tight it will not launder well. When the corner is reached, twice the width of the lace should be allowed at the turn, so it will not draw; this fullness may be held in ¼ of an inch space on each side of the corner.

Suggestion.—The form of the overhanding is attractive, and may be used as decoration in the canvas work adapted to the early grades. (See No. 2.) Overhanding fine material together is too hard for young children. It is especially difficult for them to unite the selvages, as the turn back of the woof thread in the weaving makes an unequal and stiff edge for the needle to push through, but a deep stitch is incorrect. Overhanding on the bias requires precision and neatness in completing the pattern, if there is one. It may be practiced by the pupils, if necessary. Children should not be allowed to make the stitch incorrectly. It is better, therefore, to wait until they are capable of doing fine work before teaching it to them. As soon as they learn it they should utilize it. Many things can be made with the stitch such as needlebooks and pin cases, where two pieces of cardboard can be covered with material and overhanded together; table-cloths; napkins; pillow and bolster cases; book-covers; lined bags, and pin cushions. Children

enjoy making them and quickly realize that they can be of use at home or to the people they know. By using the art lessons in connection extremely attractive and often original designs can be secured.

Nos. 18 and 19. GARMENT BIAS AND TRUE BIAS.

A bias cut in cloth is a slanting or diagonal severing of the material. Both warp and woof threads will be cut. (See Fig. 15.) It may vary with the requirements of the garment. A true or perfect bias, however, does not vary. It is always the diagonal of the square. It equally severs both warp and woof threads. (Fig. 16.)

Fig. 15.—Garment Bias. (Gore.)

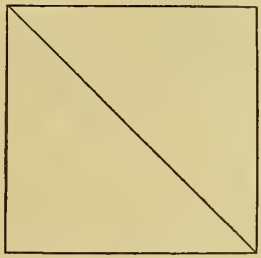

Fig. 16.—True Bias.

GARMENT BIAS.

MATERIALS FOR PRACTICE.

Kindergarten Paper (Colored), 4x3 Inches.
Brown Manila Paper, 13½x4½ Inches.
Striped Paper for Bias Facing.

Application.—Petticoat or small dress skirt.

Use and Fitness.—The slanting cut taken in some garments such as in drawers, chemises and in gores of skirts, makes them fit better, disposes of unnecessary material, and decreases undesirable width.

A gore is a piece of material in which the width is narrowed from bottom to top. In a skirt one side of the gore is usually straight and the other bias, but fashion sometimes dictates that both sides shall be bias. In the latter case two slanting pieces will often be thrown together in one seam, but as the bias stretches easily it is apt to be unsatisfactory, especially for laundering. It may be strengthened by stitching a stay-tape or a straight piece of material in with the seam. When a straight edge is joined to a bias one, the former will support the latter and keep it from stretching. Gores may be placed at each side of the front breadth of a skirt with the straight edges to the front. The amount of slant in the gore depends upon the figure

of the wearer and the requirements of fashion. A simple rule often followed in white underskirts is to put two parts at the bottom of the gore to one at the top. In cutting a skirt from white muslin or any material of sufficient width, which is the same on both sides, the gores may be economically cut from one length of material as the wrong side can be utilized. In the making of drawers and chemises the bias sides are laid together, care must be taken not to stretch the seam while sewing them together.

RULE.—(For cutting gores from muslin.) Take a piece of material long enough for the length of the skirt to be made. Divide the top and the bottom of the width into thirds and mark. Fold the cloth so that there will be one-third at one end and two-thirds at the other, and cut apart through the fold. (Fig. 15.) This will give two gores; as the material is the same on both sides and one gore may be turned wrong side out, both gores can be used in one skirt. This cannot be done in material which differs on the right and wrong sides.

For applied work in the use of gores, sewing seams on the bias, and other principles of garment construction, a little gored petticoat may be cut and made. A simple way to teach a class which cannot draft is to take a strip of muslin 13½ inches by 4½ inches (this is three yards of muslin reduced one-eighth scale) and cut the length into three equal parts. One piece may be cut into gores. Another piece is for the back and should have a vent cut down the center. The third piece is for the front, it can have one-fourth or one-sixth (according to fullness required) taken from each side of the top and sloped to nothing at the bottom. Lay a straight side of one of the gores on each side of the front, baste carefully, and make a fell or French seam. (See Nos. 20, 21, 22.) Cut off the part of the bias that extends below the seam. Join the back to the gores in the same way. The facing for the bottom of the skirt may be bias or straight. The former fits better. It is possible to turn up the bottom of the skirt into a hem instead of putting on a facing, but allowance must be made for it in the cutting of the skirt.

The new principles needed in putting together a skirt, *i. e.*, felling or French seam, gathering, stroking and placket, putting on a band and buttonholes, should be practiced before completing the petticoat. Practice in the use of the true bias may be combined with these by the cutting of a bias facing or the putting on of a bias ruffle.

PRACTICE.—FIRST PRACTICE PIECE.—Take Kindergarten or other paper 4x3 inches (colored on one side and white on the other). Divide it into thirds along the three-inch ends and mark. Double it over so that it will slant from the first mark at one end to the second on the opposite end. (Fig. 15.) Cut through the crease. This will give two gores and serve as a basis of comparison for economical cutting with the gores in the petticoat of manila paper, as it shows that material differing on the right and wrong sides cannot be turned wrong side out and utilized.

SECOND PRACTICE PIECE.—Take manila paper 13½x4½ inches, cut it into a skirt and baste it together according to the rule. Take striped tissue paper cut it into one inch wide bias strips (see true bias), and baste it on the bottom of the skirt. Fold placket No. 1 (see No. 29) in the back of the skirt.

SUGGESTION.—It is well for every pupil to make at least a small skirt, if, however, there is not time for this, they should cut one from paper and baste it together, comparing their work continually with the way to

proceed in cotton material. The length of the cotton skirt should be cut along the warp, as cloth is stronger in that direction. It is well to have a class doll or a lay figure so that measurements may be taken on it and if there is not time to make a full sized skirt the children may be able to see the relation between the small and the large size. This lesson should be so thoroughly given that each child can make one for herself at home. A very profitable result will follow this subject if the class will carefully calculate the amount of material for a full sized skirt and also decide the amount of bias or straight material needed for a ruffle for it. They should estimate the cost of the skirt finished in various ways (ruffles, embroidery, lace, tucks). To this may be added the expense of laundering with comparisons of the difference between a plain or an elaborate garment so that the economics of dress may be brought out. Each pupil should decide upon the way she wishes to make her skirt. It will be well also for the teacher from this lesson on to give frequent opportunities to the class to design, measure and cut various garments that they may gradually gain a good foundation for later drafting and garment making. (See Drafting in the Notes for Teachers.) When the class is too inexperienced to make button-holes in the skirt band, they can sew on tapes for strings instead. (See No. 33.)

TRUE BIAS.

MATERIALS FOR PRACTICE.

Kindergarten or Manila Paper, 5x2½ Inches.

Application.—Bias ruffle on skirt, bias facing on petticoat, a gusset, and folds for trimming.

Use.—For folds, facings and bindings.

Fitness.—It stretches more than material cut on the straight and can be smoothly fitted into places where straight material would have to be puckered.

Rule.—To cut a true bias is to evenly sever both warp and woof threads. The width of the material is laid down the length of the selvage and the cut is made through the slanting fold. In finding a perfect square, a true bias is found in the diagonal fold. (See Fig. 16.) It may be noticed in folding that the warp threads are laid on a line with the woof threads. Any deviation from this will keep the bias from being true. In buying material on the bias, the end is folded over, the true bias found and the diagonal fold cut through. The measuring for the quantity required is then made first along one selvage and then along the other. A fold is made from one selvage to the other, and the cut is made through this fold. As greater length is obtained along the bias strip than along the selvage an equal loss will be shown in the width of the strip; about one-third is thus gained in one way and lost in the other. This must be remembered in calculating the amount of material required. Material bought on the straight will have to be folded in the same way to obtain the bias. In calculating for the strips, allow one-third more along the selvage than the required width of the bias, measure along the selvage and chalk across. If a number of strips are needed, measure four at a time and cut afterwards into halves and

quarters, or fold the strips carefully one over the other and cut through the folds. The triangle left at either end may be utilized in some materials. (See bias ruffle.)

A gusset is, in its usual form, a triangle with a true bias at the base. The stretching of the bias helps to make it fit and the triangle gores are at the end of the seam.

Care must be taken in piecing bias strips, that the warp or woof threads in all the strips run the same way, or the joining will show. When properly adjusted the two will form a right angle. In uniting bias pieces, the edges at either end of the two strips, as they are laid face to face, must overlap the width of the seam, so that the top of the strip will be even after the seam is taken.

PRACTICE.—Take paper 5x2½ inches. Fold the narrow side that it may exactly meet the long, press it over into a triangle and cut through the fold. In order to compare the relation of measurement on the selvage to that through the bias strips take the larger piece of paper, measure one inch on each side and rule a line across. Now measure it all into one-inch wide bias pieces by placing the measure at right angles with the bias cut. Put a dot at each inch at the top and the bottom of the paper to the end of the strip. Rule lines diagonally across through the dots.

BIAS RUFFLE

MATERIALS FOR PRACTICE.

TRIANGLE OF FINE CHECKED GINGHAM, COTTON, No. 80-100. NEEDLE, 10-11.
6 INCHES ON STRAIGHT SIDES.
CORD 6 INCHES.

APPLICATION.—Trimming for underclothing or dolls' clothes.

This exercise is to show the uniting and hemming of bias pieces, and also the economizing of material in the utilization of a triangle.

PRACTICE.—Take a triangle of checked gingham the straight sides of which are six inches. Fold back the triangle so it comes one-half an inch below the base and cut through the fold. Cut the base into two equal parts. A bias piece may then be joined with a fine running stitch to each side of the triangle, matching the pattern if there is any. Allow the apex of the triangle to extend as far beyond the seams as the matching of the pattern will allow. A narrow hem should be made on the bottom of the bias strip thus formed. The top may be turned over a cord and a easing run in, being careful not to catch any stitch in the cord. Draw the ruffle up and put a knot in each end of the cord so it will not slip through the easing. If a ruffle is to be placed on a garment, that will take the place of practice.

SUGGESTION.—Every effort should be made to have classes understand the relation of the gain in length to the loss in width in the bias. It is well to have problems presented which will deal with the purchase of material and the calculations of amounts required for different sized bands or ruffles. For instance, how much bias velvet, twenty inches wide, would it require for bands four inches deep to be placed on a skirt three yards around? Let the children who are making the bias ruffle on the petticoat (see suggestions under garment bias) decide how much it would take for this little skirt, compare straight with bias ruffles, and also let them cut paper on the bias to represent the amount of material. They should see

the difference it makes if the triangles at either end cut from the straight material are utilized. The classes can utilize the ruffle for trimming dolls' clothing or for larger garments. Practice is not necessary unless the pupils are very inexperienced.

Nos. 20, 21 and 22. SEAMS.

USE.—A means of fastening together two or more pieces of material.

VARIETIES.—Single and double seams. For the former the following stitches are used, the running; stitching; backstitching and varieties of these; overhanding, and fine-drawing. For the latter, felling, French-seam, overhand and fell and counter-hemming. Double sewing is used in seams where greater strength or beauty is required than the single stitch can give. In dressmaking and tailoring there are many special names used such as lapped, welt, strapped and slot seams; these are, however, but varieties of those mentioned above.

PRACTICE.—For the first practice it is sometimes better to use material on the straight of the goods and colored thread, as the work is easier on the straight and the imperfections will show clearly. Seams in such garments as chemises, petticoats, nightgowns and drawers are, however, usually on the bias or a straight piece is united to a bias. It is well for inexperienced pupils to practice on a piece of cloth before applying on a garment, but the moment they can do fair work they should begin on a real garment, small or full size. (See Application of Stitches No. 23.) In many schools the first practice is given on coarse, unbleached muslin, but it is so much more difficult to work on than on a good quality of white muslin that it is unnecessarily discouraging to the pupils.

SUGGESTION.—Garments in which various single and double seams are used should be brought to the class and their form and adaptability discussed. The teacher can use her judgment in discussing or practicing the various forms of seams used in dressmaking and tailoring.

FELLING.

MATERIALS FOR PRACTICE.

WHITE MUSLIN, 4x3 INCHES. COTTON, No. 80-100. NEEDLE, No. 10-11.

APPLICATION.—Pillowcases and underclothing.

USE.—To join two straight or two bias pieces of material, so that the raw edges will be completely hidden, and a strong seam will result. It is used for seams in underclothing, pillowcases and laundry bags.

FITNESS.—Double sewing makes it strong; the turned-in edges keep it from fraying, and the effect is neat and pleasing.

RULE.—This seam is to be twice sewed and may be made on straight or bias material. Baste together the edges of the cloth, having placed one a

short distance below the other (about ⅛ of an inch in white muslin). The upper edge will later be hemmed down over the short edge. (Fig. 17.) Running and backstitching No. 2 or fine running may be used for the first sewing of the seam, as its wrong side is attractive. The first sewing of a fell may be also stitching or overhanding. The difficulty with stitching is the need to do the work on the wrong side of the seam so that when completed the right side of the stitching stitch may show. (For overhand and fell see below.)

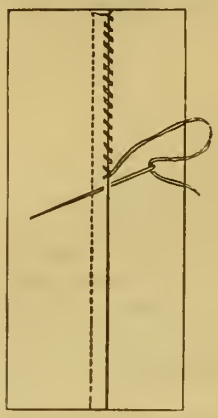

Fig. 17.—The Fell.

Make the seam as narrow as possible for strength. When the first seam is completed, take out the basting stitches, open the seam flat, and turn the wide edge of the material over the narrow. Hem the wide edge to begin the sewing at the wide end of the material way as the straight. Care, however, should be taken required in underclothing. It is made in the same flat on both sides of the material. A bias fell is often seam should be narrow and even, and lie perfectly needle as the work proceeds. (Fig. 17.) The fell carefully down, turning in the raw edge with the on account of the fraying.

Practice.—First on two straight pieces and then on a bias seam. Take white muslin, 4x3 inches, divide it into two gores, as described in the practice piece for the garment bias. Lay one bias piece against the other, having wide ends to wide ends and narrow to narrow. Proceed as by rule, using the running and backstitching No. 2 for the seam. Let the hemming-stitch, used for felling down the wider edge show distinctly through the material, so that it may be strong.

FRENCH SEAM.

MATERIALS FOR PRACTICE.

White Muslin, 4x3 Inches. Cotton, No. 80-100. Needle, No. 10-11.

Use.—For seams in lace, embroidery, wash goods that are not lined and for underclothing. It is used for underwaists and underclothing in preference to the fell, as it is more satisfactory in curved seams.

Fitness.—It makes a neat appearance, as it shows but one line of sewing on the right side; it launders well, and for thin wash material has a better effect than the raw edges showing through the material.

Rule.—The seam is to be twice sewed. It may be made on straight or bias material. Lay the two edges to be united exactly together on what will be the right side of the garment, and baste neatly near the edge. Use a fine running stitch for the first sewing and make the seam as narrow as possible

Fig. 18.—The French Seam.

for strength. Trim the edges neatly, and lay the seam open with the finger nail. Turn the seam inside of the muslin, and make a new seam over the other on what will be the wrong side of the garment. Various stitches may be used for the second sewing according to the strength desired. The second sewing must cover the raw edges of the first seam. (Fig. 18.) The seam should be as narrow and neat as possible.

Practice.—Take white muslin 4x3 inches. Cut it into two gores as described in the practice piece for garment bias. Lay one bias piece against the other, having wide end to wide end, and narrow to narrow. Proceed as by rule. Begin the running stitch on the wide ends of the bias pieces. Let the second sewing of the seam be done with running and backstitching No. 1.

OVERHAND AND FELL AND OTHER SEAMS.

MATERIALS FOR PRACTICE.

White Muslin, 4x3 Inches. Cotton, No. 80-100. Needle, No. 10-11.

Application.—Undergarments, ball covers and sails.

Use.—In seams where great strength and neatness are required.

Fitness.—The overhand stitch for the first sewing followed by the hemming stitch in the fell makes a very durable seam.

Rule.—Take the two pieces to be joined, turn a small fold on the raw edge of each piece—the turn on one piece should be twice as deep as the one on the other. Overhand the two pieces together, having the narrow fold toward the worker. Overhand the seams according to the rule for overhanding, press open the seam, turn the wide edge over the narrow and hem it down. The seam should be flat.

Practice.—See gusset or as in fell and French seam.

Fine drawing (see description) is used to hold two selvages or two pieces of heavy cloth in a seam. It is the stitch used in sewing together the seams in the leather or felt coverings of balls.

Counter-hemming is used in seams where the materials are made to overlap a little and are then hemmed on both sides. Sails for toy boats can be made of wide cotton or linen tape counter-hemmed together; when made thus they look much more like real sails than when the forms of mainsail and jib are merely cut from muslin and hemmed around the edge. If boys are in the classes, they can readily whittle boats and use the sails on them. The children should first carefully baste the strips together before counter-hemming them. The raw edges above and below must also be turned in and hemmed when the sail has been sewed together. Talks on boats and sails, and illustrations of sail-cloth, sail-needles and thimbles all add greatly to the interest.

No. 23. APPLICATION OF STITCHES.

The following suggestions for applying the stitches are given to help teachers to plan courses of work. Real articles and garments are mentioned in the hope that these will be used in place of models of stitches. These various things can be made by the children while they are learning the stitches and with the minimum of practice. It is more important that they learn to be constructive along useful lines, with a few stitches, than that they should continue to learn new stitches only. It is not necessary for the teacher to make every one of these articles, but she should make some of them and place them in an interleaved copy of the Sewing Course. They will thus be an incentive to the pupils. Each teacher, however, should herself make any article or garment which she plans to give her pupils. The current magazines dealing with home problems will also help her in choosing her course of instruction, for they give description of the way to construct many useful as well as fancy articles. As the manner of making and the decoration changes continually, according to prevailing fashion, only a few articles which are not apt to be thus affected are described in detail in the following pages. Patterns of articles and clothing in large and small sizes can easily be obtained.

BUTTON BAG.

MATERIALS FOR PRACTICE.

GINGHAM OR OTHER COTTON MATERIAL. COTTON, No. 60-80. NEEDLE, 9-10.
12x4 INCHES.

Take a piece of material 12x4 inches. Fold it together with the wrong side out so that the two ends exactly meet. Stitch a narrow seam along each side beginning at the bottom of the bag and continuing until within 2½ inches of the top. Overcast raw edges of the seams. The rest of the way to the top of the bag hem the four sides separately in narrow hems. Turn the tops down to the side seams and hem neatly. Run a casing in ¼ of an inch above the hem. Put a narrow linen tape through the casing, beginning at the hemmed edges on one side. Draw the ends of the tape out on one side and fasten together by turning in the raw edges, lapping the ends one over the other and overhanding the parts together. Put a second tape in from the opposite side and complete it as the other. The bag is drawn together by pulling on the two strings at once. Another way to finish the bag is to put a series of rings on the inside of the hem and run the tape through these in place of a casing.

SUGGESTION.—A lesson on the bag should be supplemented by a discussion of various sorts of bags and their methods of construction. Where bags are needed for school purposes the children can supply that need. Boys may make marble bags of galatea, while the girls are making button or work-bags of other materials. Variations in the way of completing the bags will add interest.

APRONS (Small size).

No. 1. With Casing.
No. 2. With Band.

MATERIALS FOR PRACTICE.

Gingham or Muslin (1) { 7x8 In. Cotton, No. 60-100. Needle, No. 9-11.
16x1 In.

Gingham or Muslin { 7x8 In.
Gingham or Muslin (2) { 6½x1 In.
Gingham or Muslin { 6x1¾ In. (2 pieces.)

A very simple apron can be made by taking gingham or muslin 7x8 inches. A narrow hem can be made on each side along the 7-inch side of the material. An inch hem can be turned up at the bottom. In place of putting on a band a ½ inch hem can be turned down at the top to form a casing. A tape (16 inches long) can be used or a strip of the same material can have a narrow hem on each long side and a ¼ inch hem across each end and be slipped through the casing to draw the fullness together around the waist. Hemming alone is required in this practice piece.

If an apron on a band is desired a piece of gingham 7x8 inches can be hemmed on each 7-inch side and at the bottom as above. The top can be gathered and stroked (see Gathering and Stroking) and the band put on by stitching or setting-in gathers (see Putting on a Band). The apron may be drawn in to four inches at the top. The belt will thus extend one inch beyond the apron on each side and these sides of the belt can be overhanded together to the ends. Two strips, 6x1¼ inches, can be finished for strings by placing narrow hems along each side and a deeper hem at the bottom. These strings can be gathered at the unhemmed ends and joined to the end of the belt by stitching, or setting-in gathers.

Other kinds of aprons with bibs, straps and pockets should be discussed by the classes. Aprons are frequently indicative of certain tasks, viz., nurses, waitresses, butchers, cooks and blacksmiths. This subject may be made interesting to a class.

If a full sized apron extending well to the back is to be made, some of the material must be cut away from the center of the front before the gathering thread is put in, or it will bulge just below the band. About one inch in the center of the front may be sloped to nothing at each side.

The following articles also are described in the Sewing Course:

Petticoats (small size). See No. 19.

Travelling Case. See No. 43.

Trunk Tray-cover. See No. 43.

Hemstitched Handkerchiefs (small size). See No. 46.

Apron of Fine Muslin. See No. 48.

Additional suggestions of articles applying useful stitches:

Sheets (all hemming); pillow-cases (overhanding or the fell, overcasting, hemming); table linen (napery stitch, and marking by (1) linen embroidery, (2) cross stitch or (3) chain stitch); bags (hemming, overhanding, overcasting, fancy stitches, binding with braid and buttonhole stitch or eyelet); work-bag with divisions; shoe bag; school bag; laundry bag; clothes-pin bag;

clothes bag; and collar and cuff bag with stiff bottom. There are an endless number of things which may apply the plain stitches, the fancy stitches or the constructive principles. These can be chosen according to the needs of the classes. The following useful exercises are all being used in the schools: Fittings for the work-basket or work-bag, such as needlecases, emery holders, scissor shields, thimble cases and pin-cushions; furnishing for doll's houses, such as muslin curtains, portieres, cushion, couch, bureau, and stand covers; cases, such as travelling, pin, toilet, jewelry, handkerchief and card cases; articles for the school, such as class and national flags, badges, costumes for dramatic work, curtains for book-cases, bags for gymnasium shoes, towels, aprons, caps and sleeves for cooking; work aprons for woodwork, historic dress in large or small size; articles for the home, such as the pads for bureau drawers, pin-cushions, whiskbroom holders, waste basket of pasteboard and denim, bureau scarfs and sofa pillows; the use of decorative stitches in book-covers, portfolios, corners of writing pads, note-books for sewing, hemstitched, embroidered or marked towels, napkins, doilies, table runners and squares, collars and cuffs, trimmings for cotton or woolen gowns and for linen shirtwaists, lingerie hats, neckties and belts; underclothing, simple or elaborate, such as the single piece underwaist or nightgown; children's clothing, such as sunbonnet, caps, guimpes, or simple one-piece aprons or dresses.

Underclothing and outer clothing for dolls offer excellent work in the fifth or even the sixth grade. Through the numerous articles which can be made, all the stitches already learned can be utilized and new principles such as plackets, putting on bands, sewing on tape, tucking, fancy stitches and embroidery can be added. If bought patterns are used at first they should soon give way to patterns made by the children. (See Drafting.)

APPLICATION OF STITCHES.

Space for the description of any special article planned by the teacher.

Nos. 24, 25, 26, 27 and 28. BUTTONHOLES, EYELETS, LOOPS, SEWING ON BUTTONS, and BLANKET STITCH.

MATERIALS FOR PRACTICE.

White Muslin, 4x4 Inches (two pieces). White Cotton, No. 60. Needle, No. 9.
Small pearl button.

Application.—On aprons, bags, cases, doll's clothes and full sized garments.

Use.—To fasten together parts of clothing or to give a strong edge to material.

Fitness.—The character of the buttonhole stitch is such that both durability and beauty may be secured in the buttonhole.

Rule.—Buttonholes are worked on the right side of double material. The work may be done from right to left, or from left to right, the only difference is the manner of making the purl (the twist given to the thread about the needle). The thread must be turned about the needle in the direction in which the work is advancing. (Fig. 19.) The slits are cut at intervals about a quarter of an inch from the edge of the cloth; for flat buttons they should be cut the length of the diameter of the button, for round buttons, somewhat longer, and always even to the thread. Begin work at the lower end of the slit (farthest from the edge of the cloth). Hold the buttonhole slanting across the first finger of the left hand, with the edge of the cloth toward the outside of the hand. Make two or more stitches across the lower end, if a bar of buttonhole stitches is to complete the buttonhole; this crossbar is to keep the sides of the buttonhole from stretching.

The following description is from right to left, and is a usual method of making buttonholes in cotton material: First strand the buttonhole by taking one or more long stitches to the extreme end of the slit and back again on the opposite side; the buttonhole stitches will cover these, and will be strengthened by them. As double material is used for buttonholes, the two raw edges should be lightly overcast together, over the stranding; this overcasting must not be deep, or it will show. After finishing the overcasting on both sides, bring the needle to the right side close to the edge of the slit at the end of the buttonhole furthest from the edge of the cloth. Take the

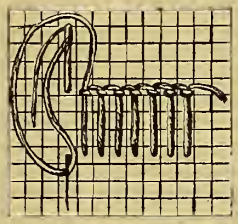

Fig. 19.—Buttonhole Stitch.

Fig. 20.—Buttonhole.

first buttonhole stitch by putting the needle into the slit close to the end and bring it out far enough from the edge of the slit to avoid danger from raveling. In muslin four to six threads above the edge will be sufficient. Before pulling the thread through, put the thread from the eye around from right to left under the point of the needle (Fig. 19) (if it be brought from left to right it will make the blanket stitch, which does not make a strong finish needed in buttonholes). The needle is drawn away from the worker so that the purl comes on the edge of the slit. Make the stitches upright, of the same depth, and about one thread of material between each stitch, to allow room for the purl. When the opposite end of the slit is reached, turn to the other edge by making a fan of stitches. (Fig. 20.) Let the purl be close together across the cut, to make it strong, as the shank of the button will rest there. The outer part of the stitches will be stretched into a fan. The round end of the buttonholes takes usually from seven to nine stitches. It is sometimes made without the purl and consists of a close overhand stitch like eyelet No. 3. When the lower end of the buttonhole has been reached, the fan can be made around this end, or if this end is to be barred, put the needle into the purl on the opposite side, and draw the two sides of the slit together; take two or three stitches if it needs to be very strong; bring the needle out beyond the slit on a line with the depth of stitches just completed and make a close bar of buttonhole stitches across. (Fig. 20.) The ends of the bar should be on a line with the outside of the buttonhole stitches. Some needlewomen make the bar of the blanket stitches; it is not quite so strong made in this manner. The stitch in the bar that comes over the first stitch made in the buttonhole must pass through its loop, so as to hold it from slipping; fasten all securely.

Take a long enough thread to complete the buttonhole stitches, as it is very difficult to join the thread after the purl has been started; a thread about ¾ of a yard long is enough for ordinary buttonholes. Coarse thread may be used for coarse material; but for ordinary muslin No. 60 is coarse enough. Use as fine a needle as possible. If a thread must be taken in the midst of the buttonhole put the old thread through the slit and fasten well on the other side. Insert the new thread through the last purl and continue as before. Buttonholes in cotton material may be rounded at both ends, barred at both ends, or the end where the shank of the button will come may be rounded and the other end barred.

When making buttonholes on wool material the method is not essentially different, though in rounding the ends more stitches are often taken in the fan. As each stitch is made, it may be pulled up tightly that great strength may be gained. D. silk is generally used. If the material is thick or if it frays easily, it is well to put a double line of little running or machine stitches where the buttonhole is to be and cut the slit between these stitches. Glue is also used to keep the material in place before cutting. Little plates can be purchased with the form of the buttonhole cut in them; by putting the glue through such a hole there is no danger of it spreading too far and injuring the fabric. In heavy cloth a wedge-shaped piece is usually cut in the end of the slit where the shank of the button will come, or an eyelet hole is pierced instead. (Fig. 21.) It is also cutomary in heavy material to work the buttonhole stitch over a cord as the stranding of the buttonhole twist is not sufficiently strong. When completing the buttonhole in wool material it is well to take several stitches across the end and make the buttonhole stitch over them to insure strength.

The cutting of the buttonholes is always extremely important as the final appearance is greatly dependent on it. Buttonhole scissors, set to the right length, aid in obtaining regularity, but much depends on the worker, who must always cut the material to a thread, begin each cut at the same distance from the edge of the cloth, usually about ¼ of an inch, and have the slits the same distance apart. Every point must be carefully measured and indicated before cutting. Haphazard work is almost always fatal to success.

Practice.—The practice piece contains buttonholes, eyelets, loops, sewing on a button, and the blanket stitch. Take two pieces of muslin 4x4 inches. Turn in all the edges neatly, and baste the two pieces carefully together; be sure to have warp to warp, and woof to woof in the two pieces of muslin. Have a small pearl button, and cut a slit in one corner of the practice piece the size for it and as near the edge as a buttonhole would come. Make the buttonhole according to directions and round both ends. Diagonally cut another slit the same size, and make this buttonhole round on one end and barred on the other. In another corner put three eyelet holes, run them toward the center of the cloth, and graduate the size, that the center one may be the smallest. (Fig. 21.) In the fourth corner make three small loops, graduating their size to balance the eyelets. In the middle of one side make a large loop, and sew the button in the middle of the cloth. The practice piece can be finished around the edge by the blanket stitch. The directions for eyelets loops, sewing on buttons, and the blanket stitch will be found below.

Suggestion.—Good buttonholes require fine work. They take much patience to learn. The work is not adapted to the lower grades of the school. Practice in the form of the stitch and also in the making of the entire buttonhole may be given on canvas if it is found to be an aid. Besides the actual making of a successful buttonhole, the classes should have practice in spacing and cutting buttonholes in various materials. It is also well for them to have practice in making buttonholes in cashmere or other light wool goods. Let the piece for such practice be prepared with a lining as would be the case in a regular waist. Paper may be utilized for spacing and cutting buttonholes where woven material cannot be provided. The practice piece given above is for teachers. It is too elaborate for most pupils even in the High School. They should only practice buttonholes when they wish to use one for the necessity of direct use is a great incentive in overcoming the difficulties. It is better also for them to practice the many varieties on separate pieces of cloth.

EYELETS.

Application.—A bag with eyelets to pass tape through and draw the opening together.

Use.—A hole pierced in material and made strong by stitches around the edge of it, through which a tape or lacing-cord may pass.

Rule.—Pierce the material with a stiletto until the hole will allow the lacing-cord to pass through easily. If a large hole is needed some of the pushed-back material on the wrong side must be cut away. For added strength the holes may be outlined with running stitches. The work over

the edge may be done in different ways. The buttonhole or the blanket stitch may either be used, or the hole may be worked over and over with a close overhand stitch.

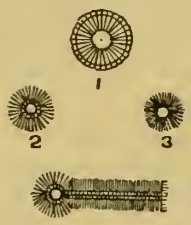

FIG. 21.—EYELETS Nos. 1, 2 and 3.

The buttonhole stitch with the purl turned toward the hole makes the strongest eyelet. (Fig. 21, Eyelet No. 2.) The upright stitches must be evenly spread apart as the purl is crowded into a smaller space. The needle is inserted first into the hole, and then into the material and the purl is drawn to the edge of the hole. The blanket stitch is sometimes used for the buttonhole stitch in this eyelet.

The close overhand is also strong. It is the method usually adopted where a silk lacing is to be used. (Fig. 21, Eyelet No. 3.) The work is done very close together, and the stitches are drawn tightly.

BUTTONHOLE. The buttonhole stitch with the purl turned away from the hole makes the most attractive looking eyelet. (Fig. 21, Eyelet No. 1.) The needle is inserted first into the material and then brought through the hole to the surface and the purl is drawn into place beyond the hole. The work proceeds from right to left as in buttonholes. The upright stitches must lie close together to cover the raw edges and make the eyelet wear well. The work is fastened on the wrong side by a couple of double stitches.

The depth of the stitch in all eyelets depends on the material on which it is made. The object is to protect the hole; the stitch must therefore be close and deep enough to accomplish this. The stiletto can be of use during the progress of the work to keep the hole round.

PRACTICE.—Three varieties of eyelets are to be worked on the buttonhole practice piece.

No. 1.—Buttonhole stitch with the purl turned outward.

No. 2.—Buttonhole stitch with the purl turned inward.

No. 3.—A close over-and-over stitch. (See Practice—Buttonholes.)

LOOPS.

APPLICATION.—On a doll's dress or garment in place of a buttonhole or as a hanger for a bag the stitch being made over a brass ring.

USE.—Where a metal eye would not be attractive in certain garments, a silk loop is made to catch the hook. Loops are also used to take the place of buttonholes to stay the end of a placket, or to hold two folds of cloth together.

RULE.—Determine the size of the loop necessary for the hook or button and the place it should occupy. Fasten the thread securely without a knot if possible, take three or four strands of stitches back and forth on the garment, leaving them loose enough to catch the hook or button. Fasten securely at the opposite end that they may bear the strain to be put upon them. Make the buttonhole stitch or the blanket stitch over the strands. (See Blanket Stitch.)

PRACTICE.—(See Practice—Buttonholes.)

SEWING ON BUTTONS

Application.—On aprons, garments and travelling cases.

Rule.—Buttons with four holes may have the stitches form a cross on the face and two diagonals at the back, or may have two parallel stitches on the face and a cross at the back. The cross stitches should be in the direction of the warp and woof. Use double cotton and fasten it securely in the right side of the material directly under where the button will go. It is well to put a pin on top of a flat button or under one which is concave and to make the stitches over the pin so that the button will not be fastened down too tight. When sufficient stitches have been taken withdraw the pin and pass the cotton several times around the stitches beneath the button to form a stem or shank. This protects the stitches and makes room for the buttonhole or loop. When the button is sewed down tight, it is apt to pull off, bringing a piece of the band with it. Fasten off directly under the button or on the wrong side in one of the diagonal stitches. The wrong side should be very neat.

Buttons with two holes have the stitches running the warp way of the material. Buttons with a shank should have the stitches over and over the shank in such a way that the rubbing of the buttonhole will be against the shank rather than against the stitches. Cloth buttons often are made with material on the wrong sides in place of a shank; these are sewed on in the same way, but looser than a shank button, so a stem can be formed by winding the thread around the stitches.

Practice.—A four-holed button is to be placed in the middle of the buttonhole practice piece. (See Practice—Buttonholes.)

Suggestion.—The sewing on of buttons may be taught to young children. Let them practice with four-holed buttons, shoe-buttons and cloth buttons. With older classes, practice on spacing and cutting buttonholes may be accomplished by sewing on buttons to correspond. In light-weight materials a staytape will often be needed between the lining and the cloth to hold securely the buttons.

BLANKET STITCH OR FLAT BUTTONHOLE STITCH.

Application.—Canvas napkin rings, mats and cases, the bottom of flannel skirts and jackets and in embroidery on linen.

Use.—For finishing raw edges in place of overcasting. It is also used ornamentally as in scallops on flannel or by a network of stitches over a surface. A neat way of joining the edges of Hamburg trimming is to buttonhole or blanket stitch the edges together very closely.

FITNESS.—It holds an edge from raveling and at the same time decorates it. When worked close together it is very strong and durable as well as beautiful.

FIG. 22.—BLANKET STITCH.

FIG. 23.—SCALLOPS.

RULE.—It is worked from right to left or left to right, the latter being the more usual way. The work is held over the first finger of the left hand with the raw edge toward the worker. The upright part of the stitch is at right angles with the raw edge (Fig. 22); the loop goes over the edge. The needle is inserted as far from the raw edge as the depth of the stitch chosen. To fasten the thread in cloth or flannel (in canvas a knot has to be used); make a running stitch toward the edge, insert the needle again at the same place as before and take one stitch toward the edge, slip the thread under the needle and make a loop. Insert the needle at the same height as the last stitch and as far to the right (or left) as desired, making a loop in the thread. Continue the stitches the same height and the same distance apart. In a corner three stitches should come in the same hole to make a neat turn. When a new thread is to be taken, fasten off the old thread back of the last upright stitch. Begin the new thread by a running stitch back of the last stitch, catch the new thread through the loop and proceed as before.

VARIETIES OF THE STITCH.—The depths of the upright stitches may be varied at regular intervals and make a most attractive effect. An ornamental network also can be made by catching succeeding rows of the stitch in the previous row. In using the blanket stitch for scallops in embroidery (Fig. 23), the upright part of each stitch lies close to the next. It must be crowded on the inner edge of the scallop to have the outer edge firm and substantial. When the point of union between two scallops is reached, the last blanket stitch can come directly at the point of junction, or each succeeding scallop can begin again at that point and give an overlapping appearance. The last is the richer effect. In flannel garments scalloped at the edge, the material below the scallop is to be cut away. It is better not to cut too close until the flannel has been once washed.

PRACTICE.—(See Practice—Buttonholes, Embroidery on Flannel or unite two pieces of Hamburg edging.)

SUGGESTION.—The blanket stitch is very useful in early primary grades. It may be used to finish the edges of burlap mats, leaves for needlebooks, bookmarks, blankets, bookcovers and napkin rings. Variation in the length of the stitches may also be suggested by the children. In raffia work this stitch may be used in picture frames, or to hold together the bundles of raffia, for making hats, mats and baskets.

Nos. 29, 30, 31. PLACKETS.

USE.—The opening made in certain parts of garments which gives greater freedom in slipping them on. Skirts and petticoats, shirt sleeves, drawers and chemises, have these openings.

FITNESS.—The piece of material set on or folded over strengthens the garment where it has to bear a strain and is liable to be torn and the increased size of the opening gives comfort.

In full-sized garments the length of the placket depends on its use. The object should be merely to have the parts slip on easily and to avoid unnecessary length.

PLACKET No. 1.

MATERIALS FOR PRACTICE.

GINGHAM OR WHITE MUSLIN, 4x4 INCHES. COTTON, No. 80-100. NEEDLE, No. 9-11.

APPLICATION.—On a petticoat either full or small size.

USE.—For finishing the vent in certain skirts or for the opening in the back of men's shirts.

PRACTICE.—Cut a slit 2½ inches down the middle, or one-half inch to the left of the middle, of the warp of a piece of gingham or muslin 4x4 inches. Put a narrow hem down the left-hand side of the slit, sloping it to nothing at the end. On the right-hand side of the slit make a hem which will be half an inch wide its entire length. When the end of the cut is reached, fold the whole width of the right-hand side over the left-hand side. This will make a pleat in the muslin below the end of the vent (some prefer the left side folded over the right). Securely fasten down the broad hem over the narrow by a line of stitching stitches at right angles with the hemming-stitches and over the end of the slit. Make another line of stitching stitches which will slant from the end of the fold of the hem, where the other stitching stitches ended, to the hemming stitches and will form the hypothenuse of the angle made by the junction of the hemming stitches with the first line of stitching stitches. This will make a more secure finish than double parallel lines of stitching stitches.

SUGGESTION.—In full-sized garments the broad hem in this placket varies from 1 inch to 1¾ inches in width. The length varies from 5 inches to 10 inches, according to the requirements of the garment.

Garments containing plackets of this character should be brought to the class for illustration. It is well also for the classes to make small white petticoats, gingham dress skirts or flannel skirts which will apply this principle. This first placket is so simple that application on a small garment does not need to be preceded by making the practice piece. Making the placket in paper, where the subject is discussed freely, is sufficient preparation for its utilization on the small garment. A placket is more satisfactory in the back of a petticoat than a gusset, on account of the lapping over of the material in the former.

PLACKET No. 2.

MATERIALS FOR PRACTICE.

GINGHAM OR WHITE MUSLIN, 4x4 INCHES.
5¼x1¼ INCHES (lower facing).
3¼x1¼ INCHES (upper facing).
COTTON, No. 80-100.
NEEDLE, No. 9-11.

APPLICATION.—On the vent at the wrist of a shirt sleeve.

USE.—Opening of shirt sleeves. The under facing makes a strong finish which will launder well and the upper facing makes the appearance attractive.

PRACTICE.—Take a piece of striped gingham or white muslin, 4x4 inches (if gingham is used care must be taken throughout to match the pattern).) Cut a 2½-inch slit along the warp lengthwise of the material 2½ inches from the right-hand side. (If this slit should be cut down the center of the piece, the placket when completed will not be well placed.) Lay the long strip of muslin to the wrong side of the model at the right-hand side of the vent, making the raw edges even. Make a narrow seam (running and backstitching) from the top of the model to the end of the cut. Turn this facing over on the right side of the cloth leaving the folded edge on the wrong side extend the width of the seam beyond the sewing. Turn in the opposite edge of the facing ⅛ of an inch its entire length. Stitch it down on the right side and when the bottom of the cut is reached, stitch across the facing at right angles to the vent. This disposes of half of the long strip. Turn it back on itself, having both raw edges turned into narrow folds to correspond with the turns in the half of the facing just completed. Baste the unfinished side of the vent to the facing as it turns back, being careful that it lies flat and that the raw edge of the vent is far enough over on the facing to be strong.

Take now the upper facing. turn the long edges so that the width will exactly correspond with the part of the lower facing which turns back. Lay it on the lower facing. Directly below the vent the outer facing should be turned into a point. (Fig. 24.) This point can be made exact by (1) turning the facing back at right angles where it reaches the end of the vent and making a crease, and (2) by turning the material below the crease on both sides diagonally into angles, the straight sides of which shall rest on the crease. Where the diagonals cross will be the true point. Cut the material ⅛ of an inch below the crossing of the diagonals. The upper facing should be basted carefully to the lower around the edges and the point should be adjusted and basted on the material below the vent. The entire upper facing should then be stitched around the sides and point. In large garments the work would be done by machine.

FIG. 24.—FOLDING OF THE POINT IN THE UPPER FACING.

SUGGESTION.—In large garments the length of this placket is about 4 inches, the width varies from 1 inch to 1½ inches.

The upper and lower facings may be cut in one piece. but the fitting is more difficult than with the two pieces.

Where gingham is used the upper facing must be cut according to the pattern; it must exactly match the main part of the cloth over which it extends.

A small sleeve may be made by each child and the placket put in that, or a small shirtwaist may be made at this time.

The front of a shirtwaist is frequently made with a box pleat 1¼ to 1½ inches wide. This pleat is usually stitched on each edge. The buttonholes can be made in it or an extra lap may be made underneath for them. If the material is not wide enough to make the pleat, an extra piece may be added which will fold under the pleat and not show. The other side of the shirtwaist which goes under the box pleat may be turned into a 1-inch hem, or if too narrow for that, a supplementary piece may be added, turned back and stitched down either on the right or wrong side of the cloth as desired.

PLACKET No. 3.

MATERIALS FOR PRACTICE.

White Muslin, Cotton, No. 80-100. Needle, No. 9-11.
4x4 Inches.
Finish, No. 1. 5x1 inch on a strip of muslin with one side selvage.
Finish, No. 2. 5x2 Inches.

Application.—On the vent of a pair of drawers, a doll's skirt, or a child's dress.

Use.—Especially adapted to children's drawers on account of its strength and the complete closing of the vent by the lap underneath, formed by the turned back strip. It is also used in white petticoats and in cotton dress skirts.

Practice.—Cut 2½ inches in the middle of a piece of muslin 4x4 inches. The vent may be finished in one of the following ways: Finish No. 1. Take the strip, 5x1 inch, put a narrow hem one-half way down it or use the selvage piece. Lay the opposite raw edge of the strip on the left-hand side of the vent with the right side of the strip lying against the right side of the cloth. Baste it so that the edge of the strip will be just below the raw edge of the vent (as for a fell). Begin at the ends of the slit and make a narrow fell with the cloth hemmed down on the strip. This disposes of but one-half of the strip. Begin at the edge of the vent and with the running and backstitching sew the remainder of the raw edge of the strip to the opposite side of the vent in order that when the seam is pressed open this part of the strip will make a lining to the right-hand side of the vent. This will turn the strip back on itself. Hem the lining down by turning in the raw edges or hemming down the selvage strip. Where the strip turns back at the bottom of the placket it must be hemmed or stitched neatly and closely to the cloth. When the placket is completed the faced part of it on the right-hand side lies above the lap made by the first half of the strip. Where the strip turns back there is always a small fold in the cloth made by the fell, a loop made of buttonhole stitches can be placed at this point and add materially to the strength.

Finish, No. 2.—Take the strip 5x2 inches, lay one raw edge of it on the right side of the material or garment along the entire vent and baste it neatly, being careful to hold it well at the bottom of the slit before continuing up the other side. Sew it with one of the strong stitches, such as the stitching-stitch, and then turn the opposite raw edges of the strip just over the seam and hem it down the entire length. When finished, the strip will fold back on itself, as in finish, No. 1, but it does not need to be hemmed down to form a lining as in that method. Arrange the placket so it will look neat on the right side and make a loop of buttonhole stitches across the end of it to strengthen it. To keep the strip well in place make on the wrong side of the placket a slanting line of stitching-stitches which will hold the strip together without interfering with the size of the opening.

Suggestion.—In full-sized garments this placket varies in length and width according to need. In cotton dress skirts the strip is often made of double material. In childrens drawers a broad piece of tape more than twice the length of the vent is sometimes used to stay the material by extending it down one side of the vent across the bottom by turning it twice back on itself and up on the other side. Neither this means nor the gusset have the advantage of completely closing the opening.

No. 32. GUSSET.

MATERIALS FOR PRACTICE.

Muslin, Cotton, No. 80-100. Needle, No. 10-11.
4x4 Inches.
Diagonal of a 2½ Inch Square.

Application.—In place of the placket in a skirt, at the end of seams and under the arms. It is not in frequent use.

Use.—A gusset is a small piece of material (usually triangular) put in the openings of sleeves, shirts and drawers, to increase the width and to strengthen the garment.

Fitness.—The upper part of the triangle overhanded into the seam or into the cut on the right side of the garment, and the lower part of it, which turns back as a lining on the wrong side and acts as a stay, give great durability to the seam.

Fig. 26.

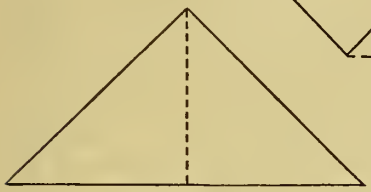

Fig. 25.

Fig. 27.

Folding of the Gusset.

Rule.—To fold a trianglar gusset, take a triangular piece of muslin and (1) turn a narrow fold on all three sides of it (the two sides first and then the base). (2) Make a crease exactly through the triangle from the apex to the base.(Fig. 25.) (3) Turn the apex down to about ⅛ of an inch at the base. (Fig. 26.) The new triangle thus formed is the gusset proper, while the remainder will serve for the lining or stay. (4) Turn each point of the

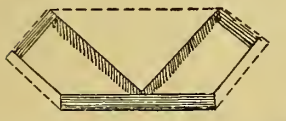

Fig. 28.

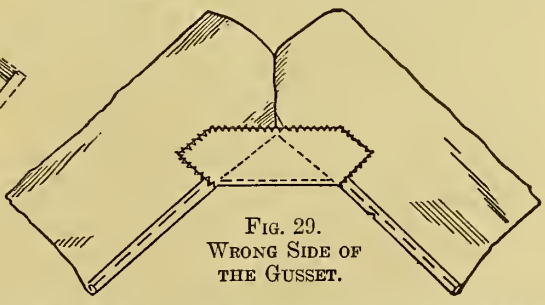

Fig. 29.
Wrong Side of the Gusset.

base into another equilateral triangle, which will make the piece hexagonal in shape. Cut off the unneeessary material in this new turn so it will leave

only a small fold. (Figs. 27 and 28.) (5) Place the apex of the triangle (with the folds turned to the wrong side of the garment) at the end of the seam or of the cut needing strengthening. Overhand it on both sides from the apex to the crease made when it was folded into the second triangle. (Fig. 28.) (6) After the triangle is overhanded, turn the remaining part of the gusset to the wrong side of the garment, baste it carefully, placing the lengthwise crease at the center of the seam or the cut, and laying the side folds of the gusset so they will extend along warp and woof threads. The lining must lie perfectly flat. Hem it down carefully. (Fig. 29.) (7) Put a line of stitching on the right side of the garment across the bottom of the gusset where it folds back. This will keep it flat and improve the appearance.

PRACTICE.—Take a piece of muslin 4x4 inches. Cut it in half down the warp threads, join the two pieces together 1½ inches in an overhanded fell. (See Overhanded Fell.) Turn narrow hems on the raw edges of the practice piece below the fell. The end of the fell will need to be cut across so the hems will lie quite flat. For the gusset, take the diagonal of a 2½-inch square of muslin. Fold and insert according to the rule.

SUGGESTION.—There are other varieties of gussets besides the triangular one. A square of muslin is sometimes used with a small diagonal cut from one corner. It is inserted in the same way as the triangular gusset. A square piece is also used by turning it diagonally and inserting it in the seams under the arms of night dresses, chemises and shirts, to give more room. A gusset may also be cut with the sides extended into a facing. This variety is sometimes used in children's drawers. The gusset gives room and the facing extends up each side of the opening and acts as a stay.

The gusset is less used than formerly. Plackets are found to serve the purpose better, as they keep the openings closed while strengthening the material, and in drawers and skirts, are more satisfactory.

A gusset is not difficult to insert if all the steps are understood and if the folding is carefully done. Blackboard diagrams are a help in making the steps clear. Garments with gussets inserted should be shown to the classes.

It is not necessary to teach the gusset in the course in the elementary school. Teachers, technical students and trade workers should know how to make it.

No. 33. SEWING ON TAPE

MATERIALS FOR PRACTICE.

Muslin, 3x2½ Inches. Cotton, No. 70. Needle, No. 9.
Tape (½ Inch wide,)
5 Inches.
3 Inches.

Application.—On towels, dusters and skirts.

Use.—To fasten tape securely so it may serve for strings for underclothing, aprons and other garments, or for loops to hang up clothing and household articles. It is also used to strengthen the edges of material. (See Placket No. 3.)

Rule.—The free ends of the tape intended for strings must always be finished neatly or they will fray. They may be folded down and hemmed or turned into a point and overhanded or hemmed. The end to be fastened down is usually placed on the wrong side of the garment. If there is a hem on the article a short distance from the edge, the end of the tape may be turned in, laid against the hem and hemmed down on three sides. (Fig. 30.) At the edge of the garment it may be overhanded or stitched. In place of the hemming for holding down the tape the stitching stitch may be used. It must always be perfect on the right side of the garment. To do this the tape must be laid flat on the wrong side of the article with its raw edge toward the end. The stitching is done on the right side through the tape. The tape may then be turned back so it will cover the stitches. The sides may be hemmed and the edge of the article overhanded or stitched to the tape. When loops are to be placed on towels or dusters, the center of the piece of tape is turned diagonally back on itself and forms a point. (Fig. 30.) The ends of the tape are laid side by side on the wrong side of the material and hemmed or stitched down as described above. The edge of the material is stitched or overhanded to the loop. Where the two pieces of tape join, they may be hemmed together or held down with cross stitches.

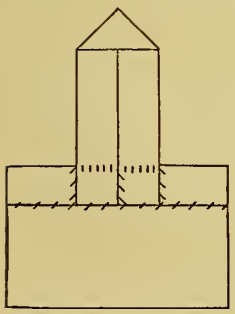

Fig. 30.—Loop of Tape.

Practice.—Take a piece of muslin 3x2½ inches, turn and base a ¼-inch hem on one long side. A loop and a string of tape are to be sewed to this hem. Take five inches of tape for a loop and fold it diagonally in the middle according to the direction above. (Fig. 30.) Turn in the raw edges and ½ an inch from one side of the muslin, lay the ends of the tape side by side with their folds on the hem of the muslin. Hem the muslin across neatly and strongly, being careful to hold the tape down with the hemming stitches. Hem each side of the tape to the muslin and the two pieces of tape together. At the edge of the muslin overhand the tape to the hem. Take the 3-inch piece of tape for a string. Lay one end on the wrong side of the hem (½ inch from the loop) with its raw edge toward the end. Stitch it down closely just where the hemming is and make the stitching perfect on the right side. Turn back the tape so it covers the

stitches and after hemming each side, stitch the tape to the muslin on the right side near the edge of the fold. Fold the raw edge of the tape into a point by turning the width of the tape diagonally into a true bias and this again into a triangle, and overhand it across the bottom of the triangle and along the one side.

SUGGESTION.—In dressmaking, the loops or hangers on a skirt are usually laid flat on the under side of the belt and sewed strongly to the belt near the side seams, or one loop may be placed in the middle of the back. They are cut about four or five inches long, which allows for the turning in at each end. They are hemmed or stitched into place. In waists, hangers are usually placed in the seams of the sleeves; they may lie flat as in the skirt, but usually the tape is doubled diagonally and the ends are placed exactly together. They may be stitched in with the sleeve or strongly overhanded to the seam. For hangers for coats the flat loop and the diagonal sleeve loop are both used.

Tape is also used to strengthen the sides of an opening by having it extend up both sides after being folded in the center diagonally as a loop is made and laid flat below the opening.

In children's work strings of tape may take the place of buttonholes in dolls' petticoats. Little towels or dusters with loops of tape may be made to apply various stitches.

No. 34. TUCKING

MATERIALS FOR PRACTICE.

MUSLIN, 6x5 INCHES. COTTON, No. 80-100. NEEDLE, No. 9-11.

APPLICATION.—On aprons, dolls' clothing or underclothing.

USE.—Folds taken on the right side of material for ornament; or as a means of disposing of material until it is needed to lengthen the garment; or to narrow a garment in place of gathers. They are used principally on children's clothing, undergarments and cotton dress.

Tucks may vary in depth from 1-16 of an inch to a couple of inches. The distance between them is a matter of choice. In wide tucks one-third to one-half of their depth is usually left between them; in very narrow ones the space between may be the same as the depth. Groups of narrow tucks are frequently made with the fold of one reaching to the sewing of the one below. The sewing, however, must not be covered.

RULE.—Decide on the size and distance apart of the tucks and make a gauge (a card with notches in it) to indicate (1) the depth, (2) the sewing and (3) the distance apart of the tucks. If there is a hem on the garment below the tucks, place the end of the gauge on the sewing of the hem, make the first notch at the distance from the hem to the inner sewing of the tuck added to the depth of the tuck. Put the second notch at the depth of the tuck. The third and fourth notches will repeat the distance of the first and second. These notches will be the indication for two tucks. After that the tucks can be indicated by folding together the wrong side of the material at the first tuck below the one to be folded and creasing, making pin-pricks or pencil marks at the fold of the second tuck below. When the gauge is made, place the card on the hem (or any point selected beyond which the tuck is to be made) and, with a strong pin prick through the material at the marks on the card, moving it gradually across the material. Make a crease from one pin-prick to the other. The first crease will be the depth of the tuck, the second the sewing, the third will be the depth of the second tuck, the fourth the sewing. The tucks are usually sewed on the upper side through the double material with the running stitch or by machine. They should be as carefully folded to a thread as possible, especially in narrow tucks where a small variation in the thread is quite noticeable.

PRACTICE.—Take muslin 6x5 inches, place a hem at the bottom which will be 5/8 of an inch deep when finished. It should be folded as exactly as possible. Three tucks, 1/8 of an inch in depth with 1/8 of an inch between are to be placed above the hem. This will make the inner sewing of the tuck 1/4 of an inch above the sewing of the hem; the tuck will, when finished, cover half of this space and the other half will be the space between the tuck and the hem. If a gauge is needed for these narrow tucks, the first mark would be 3/8 of an inch above the mark for the hem (the distance between the hem and the inner sewing of the tuck, *i. e.*, 1/4 of an inch added to the depth of the tuck, *i. e.*, 1/8 of an inch). The second mark would be 1/8 of an inch above or the depth of the tuck; the third mark would be 3/8 of an inch above the second mark, and the fourth mark 1/8 of an inch beyond the third, making in all one inch from the hem. Prick with a pin at the marks, moving the gauge across the material. The third tuck can be measured from the others (see

rule). A tape measure can be used in place of the gauge for these narrow tucks. Great care must be taken in folding to a thread, if possible. Sew with the running stitch on the outside of the tuck. When the tucks are finished, prepare the upper part of the material for putting on a band. (See No. 35.)

Suggestion.—Illustrations of different varieties of tucking should be brought to the class for discussion. It is also well to provide paper so that each member of the class may have experience in spacing tucks from some design of her own, and also may learn to notch the card for the gauge.

Garments which are too short or too narrow may be increased by adding new material and hiding a seam under a tuck. This method of repairing should be discussed.

Knots are sometimes used in tucks to begin the running stitch, but a neat fastening is preferable.

No. 35. PUTTING ON A BAND

MATERIALS FOR PRACTICE.

Muslin, 2½x1 Inch. (Utilize practice piece No. 34.)

Application.—On aprons, skirts and other clothing.

Use.—A narrow strip of cloth, folded over to cover the plain or gathered raw edges of material and to bind the garment together; a means of fastening a garment in place as well as of supporting and strengthening it.

Varieties.—The setting in of gathers or hemming; the stitched-on, and the overhanded band.

Rule.—As the band needs to be strong it should be cut along the selvage or the warp of material (the selvage itself would better be cut off as it is usually too heavy). The width of the band depends on the place for which it is intended; the length (in cutting) is generally from one to two inches longer than the place it is to occupy. This allows for turning in at each end and for the lapping over of the band. The raw edges of the band should be folded down first from ⅛ to ¼ of an inch along the length and then the ends may be turned in. The corners can be mitered (see Mitering) if the folds of the cloth coming together make it too thick. The band must now be folded together along its length with all the raw edges inside. The ends may be basted together or overhanded before the band is placed on the garment, as it helps to keep it in place. Divide the band in half and again in quarters and mark with cross stitches. Take now the garment on which the band is to be placed. Spread the material as desired on the gathers (if there are any) and stretch and pin the length of the band to it. The garment should be already marked in halves and quarters, as the band is marked, if the fullness is to be evenly distributed along the band. If the front is to be plain and the fullness gathered into a few inches in the middle of the back a careful calculation of the amount of the material to go into each quarter of the band must precede the matching of the halves and quarters of the band and garment.

Setting in of Gathers.—After preparing the band, place the gathers within it, matching the marked halves and quarters; baste the right side of the band to the gathers so that the gathering stitches are just covered. Begin

as for the hemming stitch and take a few small hemming stitches in the end of the band, holding it to the gathers. After these stitches are made instead of slanting the stitch on the right side put it vertically from the band into the space between each gather (Fig. 31), and slant it on the wrong side into the band just above the next gather. This will make the shape of the stitch like the letter N. Each gather should stand by itself and the stitch should show very little. The wrong side of the band can be sewed on the same way or it can be hemmed. The band on the wrong side must not extend below the band on the right or the stitches will show on the right side. The setting in of gathers has to a great extent taken the place of the old form of the hemming stitch for fastening a band to a garment, as it is more attractive. If the hemming stitch is to be used, in place of the setting in of gathers, the preparation will be the same, but the stitches used to hold down the band will be regular hemming stitches.

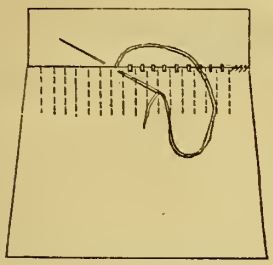

FIG. 31.—SETTING IN OF GATHERS.

STITCHING OR BACKSTITCHING ON THE BAND.—Prepare the band carefully (see Rule). The ends need not be basted or overhanded together all the way down. The halves and quarters of the band should be matched to those of the garment. Lay the right side of the band against the right side of the garment with the crease in the folded edge of the band exactly over the gathering stitches. Baste the band to the garment through the crease, being careful to keep the gathers evenly distributed. Turn the garment around so the gathers are toward the worker and hold each gather to the band with stitching or backstitching. On completing the stitching, take out the bastings, press the right side of the band back to the line of stitching and baste across the fold thus made; if the band has not been stitched on straight, it will show when it is pressed back, for it will overhang in places. It should be straight with the crease. Careful basting in the first place will aid in this. The back of the band can be hemmed in place and the ends overhanded. (For the use of the stitched band see description of Apron—Whipped Hem.)

OVERHANDED BAND.—In dress skirts, gathering is sometimes done on double material. The band in this case is overhanded on. Prepare the band as before, baste it together and overhand the ends. Match the halves and quarters of the band with the garment and lay the band with its double edges against the right side of the gathers and pin it in place. Overhand each gather to the band, holding the band toward the worker.

PRACTICE.—Take the practice piece for No. 34. First turn down the raw edge into a crease to make a line on which the gathering stitches shall go. Take double cotton, make a knot in the end and take through the crease the irregular running stitch; the longest part of the stitch may be about 1-16 of an inch. Draw up and stroke (see Rule—Irregular Gathering—Running Stitch). For the band take a piece of muslin 2½ inches along the warp and one inch along the woof, fold the band, turning in ⅛ of an inch along the length and at each end. Put on the band according to the rule for setting in of gathers.

SUGGESTION.—The secret in making a band look well is the careful folding, preparing and basting. Haste in the first steps is apt to give bad results.

Bands are made usually of straight material. Narrow binding to finish garments is cut on the bias. In gathering material for a band from twice to twice and a half the length of band is the usual allowance.

A tucked apron or petticoat could be made at this time in place of the practice piece.

Nos. 36 and 37. DARNING.

MATERIALS FOR PRACTICE.

Stockinet, 4x4 Inches. Fine Darning Cotton. Needle, No. 7-10 or
Warp Threads of Muslin. Long-Eyed Darner.

Colored Cashmere. Warp Raveling of Cashmere.
4x4 Inches. Silk of the Same Color.

Application.—Stockings, knitted underwear or sweaters brought from home.

Use.—Darning is the repairing of fabric by inserting new threads into a place which has been rubbed thin or worn into a hole. It differs from patching in that the broken part is woven back, while in the latter a piece of the same cloth is inserted into the hole. Knitted and woven materials are both usually mended in this way.

Fitness.—As it imitates the original texture it is almost invisible and the manner of weaving the threads makes it strong.

Varieties.—(1) Running Darn. Thin places in stockinet or in woven material, and broken places in the latter may be strengthened by running darns. A number of lines of running stitches are placed close together over the worn part on the wrong side and the stitch and the space alternate in succeeding rows. In stockinet, small loops should be left at the end of each row to allow for stretching or shrinkage, and the edges of the darn should be waved or diamond-shaped so the strain will be distributed. (Fig. 32.) The plain running stitch may be used in stockinet or ascending and descending loops may be taken with each stitch. In woven material the shape of the darn may be square and the loops need not be long.

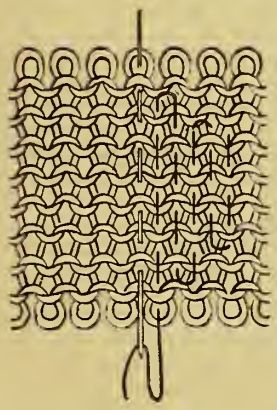

Fig. 32.—Running Darn in Stockinet.

(2) Stocking-web Darning. This manner of darning reproduces the original knitting of the garment. It is the method employed in factories where the machinery has torn the fabric. It is much used in countries where hand-knitted garments are used. It is a more difficult process than the ordinary way of inserting warp and woof and unnecessarily tedious where the darning of ordinary stockings or sweaters is concerned. The method is to clear away loose ends of the stockinet until the hole is square or oblong. Strands of thread are then stretched across the hole from the ascending and descending loops and the knitting stitches are built up with darning cotton on these strands. The strands are carefully removed when the knitting is completed. This method is difficult and is not taught generally in the schools of the United States.

(3) Warp and Woof Darns. This is a method in general use for repairing both stockinet and woven material. It may be plain weaving or it may accurately reproduce the pattern, as is often done in fine damask. (See Weaving.) In stockinet the warp threads may be inserted in the ascending

and descending loops of the knitting, or, where this is difficult for beginners or unnecessarily exact for the class of material, an alternating running stitch may be used for both warp and woof.

(4) Diagonal Darns in Stockinet. A rapid means of darning stockinet, and one which is sometimes used to good effect, is to insert threads diagonally across the hole in the stockinet instead of placing them lengthwise and crosswise of the knitting. A very elastic darn is thus made. Care must be taken to catch every loop as the stitches cross the hole.

(5) Cloth Darns. These may be made by carefully inserting the broken threads. Plain or pattern weaving, or fine drawing may be used. (See Warp and Woof Darn and Fine-Drawing.)

(6) Kid Glove Darn. A slit in a kid glove may be neatly darned by overhanding the broken parts together. Where a hole is worn or more room is needed, the blanket-stitch can be made close together around the hole and held together by catching the loops, or succeeding rows of the stitch may be caught one in the other to form a lace work.

STOCKINET DARNING.

Rule.—(Catching ascending and descending loops. Fig. 32.) Carefully investigate the material to find the character of the threads, as the new threads must resemble those of the stockinet. Fine darning cotton doubled is more satisfactory than coarse darning cotton. It is better to work on the wrong side of the stockinet. The position is over the first two fingers of the left hand or the stockinet may be basted to a card. Egg-shaped and other darners are apt to stretch the stockinet and the darn does not lie flat. The hole must first be neatly cleared of loose ends and made as regular in outline as possible. If it is very large, strands of thread may be thrown across the hole to keep it in shape, or a thread may be inserted around the edge of the hole catching each loop and closing it without puckering it. (These threads are to be cut out when the darn is completed.)

On the wrong side of the stockinet one row of the loops of the knitting turns up and the next turns down. (Fig. 32.) Thin parts of the stockinet beyond the hole must be covered by a running darn. The material must not be made any heavier than it was originally. Begin at the lower right-hand side of the hole. The ends of the darn should be diamond-shaped or wavy (Fig. 32), so the strain will not be along one line of loops. Beginners may stretch a thread in diamond shape about the hole and darn inside of that. The longest part of the diamond will be above and below the center of the hole. Insert the needle in the loops that turn upward taking every other one in coarse knitting and every third or fourth in fine. On returning take the loops that turn downward, alternating the stitch with the preceding line. All the warp threads are woven in first. The darning threads must pass through the loops on the edge of the hole; if they are not caught the darn will not be strong. Insert the woof threads when the warp threads are all in. Begin at the top of the darn as far from the hole as is needed to strengthen the material. Lay the woof threads close enough together to make the woven part over the hole as strong as the original texture. The point of the needle may serve to lay the threads into a close web as the batten does in the loom. In weaving in the woof threads in a very large darn, it is well to begin in the middle instead of at one end, as the hole is more apt to keep its correct shape. Loops

must be left in the darning cotton as the thread turns back in both warp and woof so as to allow for the stretching of the stockinet and the shrinking in washing. The darn should lie perfectly flat.

PRACTICE.—Take a piece of coarse stockinet, 4x4 inches. Cut a few threads in the center of the web and the broken ladders can then be stretched into a hole. Repair according to the rule, catching the loops and making a diamond-shaped darn. As the material is new the darn does not need to extend far beyond the hole.

DARNING WOVEN MATERIAL.

RULE.—Woven material which has been torn may be repaired by weaving back the broken threads. In fine damask where a small hole has been torn the entire pattern may be woven back, but in most instances a plain darn is adequate for the purpose. Where there is a worn place or a slit rather than a hole a plain running darn will suffice. The repairing thread should reproduce the original as nearly as possible. The raveled warp threads of the same material give the most satisfactory results. Wool may be threaded by waxing it or by twisting a cotton thread in with it. If wool raveling cannot be obtained, silk (one shade darker) may be split into thirds and one-third used for the work. Silk, however, catches the light and shows more than the raveling of the material. Whatever threads are broken should be replaced as closely as is needed to hold the material well together. A few rows of stitches are often enough to hold a slit together in wool materials where the strain is not great, but in cottons and linens a close mass of replaced threads is necessary to sustain the strain of laundering. If threads are severed in one direction only, such as warp threads, those alone need to be replaced. If both warp and woof threads are broken both must be reinserted. The work is done on the wrong side of the cloth as far as possible. A running stitch is made back and forth over the tear, leaving a little loop each time the direction is changed. The distance beyond the tear covered by the darn depends on the strength needed. In new material a few stitches on either side of the break are enough. It may

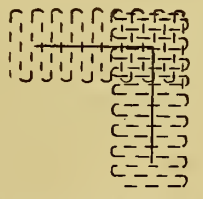

FIG. 33.—DARNING OF A HEDGE TEAR.

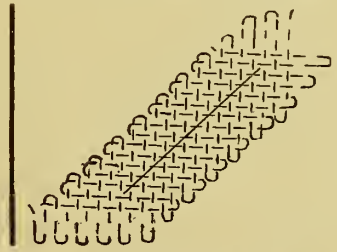

FIG. 34.—DARNING OF A DIAGONAL TEAR.

be necessary, however, to strengthen weak threads by carrying the darn some distance beyond the tear. In some materials, such as damask, when the edge of the slit is reached the thread should go over on one side and under on the other, alternating this in succeeding lines (see Fine-Drawing). In cloth

it is well to bury the stitches in the material. The work must be carefully done so that the darn will be flat and the edges will be neatly joined together and not frayed. The stitch should show little on the right side. In a hedge tear (two sides of a square) both warp and woof threads must be inserted at the corner where the two breaks join. This will make a square warp and woof darn at the corner. (Fig. 33.) In a diagonal tear (Fig. 34), the same condition usually must be met, *i. e.*, warp and woof threads are to be inserted. The warp threads are put in first as far beyond the slit as need be, the woof threads need not be so numerous as the warp, but should be sufficient to keep the slit from stretching in that direction. At times one line of repairing threads can be omitted or this class of tear can be darned diagonally across the material, but at right angles with the cut. A hole which is too large for ordinary darning may need repair. It is often better to place a piece of the same material underneath and darn down the raw edges on it than it is to hem or overhand a patch on the garment. The piece placed at the back must exactly match the original. It should be so placed that the right side of it as well as the warp, woof and ply (if it has any) should match the surface. This piece may be carefully run on to the body of the garment with an irregular running-stitch showing as little as possible on the face. Warp raveling of the material may be used for the darning which is done on the right side, the raw edges should be overcast. The ragged edges should be cleared from the hole. The loops must be taken under the surface and the stitches must not extend across the patch if the darn can be made strong without it. A human hair can be used for darning with excellent results.

Practice.—Take a piece of colored cashmere, 4x4 inches. Four holes are to be cut in it. One can be placed in each corner. (1) A slit across the warp threads. This may be darned on the wrong side with warp ravelings of white muslin to clearly indicate the stitches. They should show as little as possible on the right side. A running darn is to be used. It is to be placed back and forth along the warp as these threads are severed. When the edge of the slit is reached let the alternating rows of stitches go under and over the edge. (See Rule for Darning Woven Material.) (2) A diagonal severing of warp and woof threads is to be repaired. (Fig. 34.) Work on the wrong side of the material. Replace the warp threads first, then the woof with the alternating running stitch according to the rule. Use warp ravelings of cashmere. (3) A hedge tear. Half of this tear is along the woof, the other half is along the warp. Use warp ravelings of cashmere or split silk one shade darker than the material. Work on the wrong side of the cashmere. Replace first the warp threads and then the woof with the alternating running-stitch, making a square darn at the point where both the warp and woof threads are severed. (Fig. 33). (4) A worn place too large for ordinary darning. Cut a small hole in the material; place a piece of it at the back and repair according to rule.

Suggestion.—The darning of fine material, whether in stockinet or woven cloth, requires judgment, patience and control of the hand. It is, however, possible through lessons in weaving and coarse sweater darning to give a good preparation for it. In early primary grades the lessons in weaving (see Weaving) should be connected with ideas of repairing. Knitting also should be contrasted with weaving as a means of constructing material. A toy used by children for knitting horse lines will serve to make clear the difference between the construction of knitted and woven material. It is only a spool with four pins in one end arranged at equal distances around the hole. If a

larger spool is used and more pins are added a little form like a golf stocking can be made easily by the children. The repairing stockinet by a warp and woof darn may be discussed and by the third school year coarse sweater material may be darned. Steps such as these make a foundation for the presentation of the subject in a later grade.

With classes that are not expert in hand work, with younger children, or with poor varieties of stockinet, a running darn in and out of the material may be used in place of the more difficult variety where the loops of the knitting are caught with each stitch.

It is well for classes to have experience beyond merely practicing darning. Let them bring from home stockings, knitted underwear or woven garments, and repair them in the class or let them make small parts of garments such as sleeves, skirts, waists, drawers, etc., and darn them in various ways. This will give them experience in the judgment of ways and means of repairing which cannot be obtained from a practice piece cut from new material. The schools fail often to make the lessons in darning practical, through omitting the discussion of the problems which are met in the home. The teacher must have these points considered. Lessons in patching can well be given at the same time as the two methods of repair are almost inseparable.

Where a large hole is worn in a stocking or in knitted underwear a piece may be set under and patched down with the herring-bone stitch. (See Flannel Patch.) Care must be taken that each loop of the stockinet is caught or the ladders will stretch into a hole.

A review of weaving or the presentation of darning to an older class who know nothing of the principle of it should follow an outline of thought such as the following. The following is given as a suggestion for organizing discussion and for developing thought. The standpoint is of a class who have had a preparation for the subject in early grades. A part of the outline can accompany each one of a series of lessons or the teacher can set different subjects from it for the class to think over and discuss.

OUTLINE OF WEAVING AND DARNING.

I. WEAVING.

ILLUSTRATIONS.—Woven materials of various kinds such as canvas, plain weaving in muslin and wool, diagonal and pattern material; a loom; pictures of looms, illustrations on the board.

(I) RECALLING FORMER WORK.

1. Kindergarten paper weaving, weaving rugs and mats on cards and the loom, darning on coarse sweater material.

(II) TOPICS FOR DISCUSSION.

1. The loom, warp, woof, shuttle, selvage, batten, treadles and the interlacing of threads; setting up a loom; ways of distinguishing warp from woof without the selvage; the difference between basketry and weaving, and the difference between plain and fancy weaving.

II. KNITTING.

ILLUSTRATIONS.—Stockinet, knitted underwear, sweater material, spool knitting, pictures of knitting machines, blackboard diagrams, etc.,

(I) RECALLING EARLY WORK.

Golf stocking knitted on spool, and sweater material darned.

III. DARNING STOCKINET.

ILLUSTRATIONS. — Stocking-web darning, children's work from various schools, stockinet and sweater material and samples of the darning of them; blackboard illustrations, etc.

(I) CONNECTING THE NEW SUBJECT WITH WEAVING AND KNITTING.

(II) STOCKING-WEB-DARNING (for purposes of comparison).

1. Use of this manner of darning in knitting-factories.
2. Method of repairing discussed.

(III) Warp and Woof Darn.

1. Investigating the material and the hole to be repaired.

(1) Ascending and descending loops, ragged edges of the hole and quality of repairing thread needed.

2. Method of repairing.

(1) Ways from which to choose.

a. Running darn.
b. Picking up the ascending and descending loops.
c. Diagonal darn.

(2) Steps in the work.

a. Darning thread to be used.
b. Position of hand.
c. Inserting warp threads.
(*a*) Preparing the hole.
(*b*) Strengthening the material beyond the hole.
(c) Crossing the hole.
I. Catching all loops on the edge of the hole.
II. Leaving loops of the repairing thread on the edge of the darn.
(*d*) Shape of the darn.
d. Inserting the woof threads.

IV. DARNING WOVEN MATERIAL.

Illustrations.—Various woven materials, school work of children. Materials and garments darned in different ways, blackboard diagrams and photographs.

(I) Connecting this Subject with Former Ones.

(II) Method of Repairing.

1. Replacing the exact pattern by weaving back.
2. Replacing broken threads by a warp and woof or diagonal darn.

(1) Break across the warp, break across the woof, break diagonally across both warp and woof, a hedge tear and darning in new material.

Nos. 38, 39, 40, 41 and 42. PATCHING.

Use.—A piece set in a garment to take the place of a worn or torn part. A patch is used when the hole is too large to be darned.

There are many ways of patching. Different kinds and values of materials and the amount of strain which will be put upon the repaired portion call forth different treatment. The repairing necessary in garments when certain parts have worn out and must be replaced, such as cuffs on shirt waists and hems on skirts, is also called patching, but it requires special knowledge of the making of the different parts needing renewing.

General Rules.—It is better to take an old piece of the same material for the patch as the new will often tear away the fabric. If the old cannot be obtained, new material of a lighter quality than the original condition of the old will serve better in a very old garment than the original. The pattern, if there is one, should be very carefully matched; the right side of the patch should come on the right side of the material; warp threads should join warp threads and the woof, the woof. If there is a nap, as in flannel, it must run the same way as it does on the garment.

The worn place must be examined to decide on the size of the hole as well as on any weak parts beyond it which may need strengthening. The character of the material and the strain it must bear, must be considered to determine the manner of repairing. When the garment is very old, worth little trouble, and does not have to be laundered, the simplest means of patching may be used, such as running or hemming the right side of the garment to the patch and overcasting the raw edges on the wrong side. If, however, the material is of value, the strain on the place small and the repair must be as invisible as possible the patch may be cut the exact size of the hole, and darning or fine drawing may be used to hold it in place. When a very substantial patch is needed in a garment which will be laundered, a quite different treatment will be required. In such cases both the right and the wrong side of the garment must be strong and complete. To prepare for this there must be careful calculation of the exact size needed for the patch. The hole and any weak parts must be covered and folds must be turned in on the garment and on the patch. The thread for repairing depends on the character of the material. Where seams are to be made fine, strong thread should be used.

When the size of the part needing strengthening, the manner of repairing it and the required dimensions of the patch have been considered, the hole must be prepared for patching. If a square or oblong patch will serve best, the center of the place needing it must first be found. A crease (or a line of basting stitches) should be made down the warp through this center, and another crease should be made along the woof. Both creases should extend well beyond the hole. Where the lines cross (or should cross if a hole is worn) is the center of the hole. The hole must now be cleared and prepared. It is usually cut square or oblong (circular patches are seldom desirable. Irregular edges are sometimes left in wool material which is to be darned down on the patch.) The piece cut out of the garment may be used as a guide in matching. If, however, a hole has been worn, the repairing material can be slipped underneath and the pattern matched. The center of the patch as well as the garment should be indicated by creased or basted

lines. Measure the patch from its center along the creased lines and cut it out as exactly as possible. Prepare it according to its special requirements. When folds must be made on the raw edges of the patch, turn two opposite sides before folding the clear sides over them so there will be regularity at the corners. The creased lines in both the garment and the patch should make the final matching an easy matter.

SUGGESTION.—Patching requires judgment on the part of the worker. It is not enough to simply teach a child how to make a certain kind of patch under given circumstances. She should have experience in deciding what to do. It is better not to rely on dictation for teaching the subject. Each step should be thought out and various kinds of holes cut by the children, so they may learn to calculate the size of the patch for themselves.

The same kind of hole in varying materials necessitates an entirely different treatment. For illustration, where a worn place in silk merely requires a piece of the same placed underneath, matching the pattern, but held down with a minimum of stitches showing on the surface, a similar worn place in a linen pillow-case must be patched and strongly sewed, with hems turned back, that it may stand the laundry. Comparison of ways of repairing, as well as much practice, should be given to the classes. Darning and patching are often required on the same worn place. The classes must consider how best to preserve garments. A good gown is often ruined by poor repair.

Repairing of parts of garments such as cuffs, hems, collars and under arms, should be discussed also by the classes. When a patch is to be put under the arm, the seam should be opened, the material separated from the lining, the patch inserted and the parts again united. The teacher should bring to the class garments requiring repairing of various kinds and also examples of patching. The children should also, when possible, bring small garments needing repairing from home. Small articles or parts of garments can be made in the class and repaired. The whole subject should have thorough discussion.

Practice in paper is an excellent means of teaching patching. Manila or striped tissue paper may be used. In classes where there is not time to make all the different kinds of patches, certain varieties may be made in paper alone so the children may get ideas on methods of handling.

Circular patches are sometimes used in table linen, in the knees of boys' trousers and in the elbows of their coats. The wear on these points makes it sometimes desirable to have seams turned in the cloth. They can be stitched in, stretched into shape usually without nicking, dampened and pressed with a hot iron.

As the object of patching is to make an invisible repair, the material to be used for the patch should be as similar to the garment as possible. The use of old material, the washing of the new or the fading of it in the sun often helps to accomplish this.

NOTE.—It is advisable that each one who will make the following kinds of patching should vary the place and the shape of the hole to be repaired and decide for herself on the size of the repairing piece. For the sake of clearness a definite shape will be described in the practice pieces.

HEMMED PATCH.

MATERIALS FOR PRACTICE.

Striped Gingham or Plain Muslin. Cotton, No. 80 or 100. Needle, No. 10 or 11.

4x4 Inches or any size desired.

2½x2½ Inches. (This is a little large but it allows for fraying.) The size of the repairing piece depends on the hole and must vary with the wish of the worker.

Application.—On real garments, parts of clothing or on household linen.

Use.—For repairing underclothing, aprons, household linen and other washable articles. Outer garments are rarely repaired in this way as the patch shows too much.

Fitness.—The counter-hemmed fell, covering all raw edges, makes a strong patch which will stand repeated laundering.

Rule.—The shape of a hemmed patch is usually square; it may also be oblong if a slit has been torn down the garment, or it may be triangular as in an under-arm patch where the seam makes the third side. The General Rules (which see) for the size of the hole, the kind of repairing material, the matching of the pattern, and the creasing of the garment and patch, must all be followed. Careful calculation of the size of the patch is needed before cutting. Allowance must be made for (1) the hole; (2) the folds to be taken on the sides of the hole; (3) for the width of the fell (it may merely cover the folds or it may extend over worn material beyond the hole); (4) for folds on the patch. (In most cotton and linen materials ⅛ of an inch is wide enough for a fold.) This patch is placed on the wrong side of the garment.

The pattern must be matched before cutting and the garment and the patch prepared by creasing them along both warp and woof. (See General Rules.) The actual repairing may be done in two ways: (1) The hole in the garment may be cleared and made ready, the corners nicked and the folds turned back before the patch is prepared and put on the wrong side. (Children have more difficulty with this way of inserting the patch, as the right side easily stretches out of shape and makes it hard to match the pattern.) Or (2) The repairing piece may be prepared, matched by the creases to the back of the garment and hemmed neatly into place before the worn material is cut away on the right side. This is the easier way of repairing, but there is the danger of pushing the scissors through the patch while cutting the worn material from the face. The worn part must be cut very carefully, allowance being made for folds on the worn part and for the width of the fell. When the cutting is over, the corners must be cut diagonally, small folds turned in on all four sides and the whole hemmed neatly and firmly to the patch. If a hole has not been worn in the garment a little one should be cut in it before the patch is put on the back to allow the scissors to be inserted. In both methods of inserting this patch the repairing piece is prepared by turning toward the right side of the material narrow folds on the raw edges. A little miter may be taken from each corner to keep them from being clumsy after folding. The corners must be strong. The width of the fell beyond the hemming on the right side must be the same on all sides.

In strong linen patching an overhand and fell seam is used instead of the counter-hemming just described. The preparation is the same, but on the right side the overhand stitch is substituted for the hemming.

PRACTICE.—Take muslin or gingham 4x4 inches. Indicate on it in pencil or with a basting thread the possible shape of a hole or worn place. Crease the material through the center of the proposed repair, along warp and woof. Measure along the creases to the edges of the indicated hole to get the size which must be covered. If a piece is cut out use it as a guide in matching the pattern. Carefully consider the size to cut the patch, (1) the size of the hole; (2) ⅛ of an inch from each side of the material for the turn—¼ inch; (3) ¼ of an inch for the width of the fell on each side—½ an inch; and (4) ⅛ of an inch fold on each side of the patch—¼ of an inch. Taken together these equal the size and shape of the piece for the patch. If the material is new no allowance need be made for worn material beyond the hole. Hem the patch on both sides according to the 1st or 2d method under the rule. The patch should be carefully pressed.

SUGGESTION.—See under Patching on page 92.

OVERHAND PATCH.

MATERIALS FOR PRACTICE.

STRIPED OR FIGURED COTTON, No. 80-100. NEEDLE, No. 9-11.
CLOTH (cotton or wool). SILK No. A (shade darker than cloth.)
4x4 INCHES or any desired size.
2½x2½ INCHES. (This is a little large but it allows for fraying.) The size of the repairing piece depends upon the hole.

USE.—A durable, neat patch used principally for outer garments of various materials.

FITNESS.—The small overhand stitch shows little, yet makes a strong means of uniting the patch to the garment.

RULE.—The General Rules for the size of the hole, dimensions of the patch, the matching of the pattern and the creasing of the garment and patch must all be followed. In this patch the edges are not turned in on the wrong side, but they are overcast or have the blanket-stitch over them. Larger folds than in the hemmed patch must therefore be allowed on both the garment and the patch—¼ to½ of an inch according to the fraying of the material. The patch is sometimes inserted from the wrong side. It is easier, however, to insert it from the right side. The slight imperfection arising from the showing of the slanting part of the overhand stitch is offset by the greater difficulty of setting the patch in satisfactorily from the wrong side.

In calculating, the size of the patch, the hole, the worn part beyond, and the allowance for good seams on both garment and patch, should be considered. If no hole is worn in the garment, cut a small hole in the center of the worn part and use this piece to match the pattern. Crease the garment, cut the patch and crease it. (See General Rules.) Prepare the patch by turning good folds (toward the wrong side of the material) on all its four sides. Lay the patch on the right side of the garment with the folds turned inward, baste carefully and overhand the patch to the garment, being careful to catch with the stitches the square folds at the corners of the patch.

Turn to the wrong side, insert the scissors into the hole and cut the garment to within the same distance of the overhand stitches as the width of the folds turned on the patch. Cut diagonally in each corner toward the overhand stitches and press the raw edges of the garment beyond the patch. (Fig. 35.) This will make the entire patch slip into the hole and therefore show little on the right side. Press carefully.

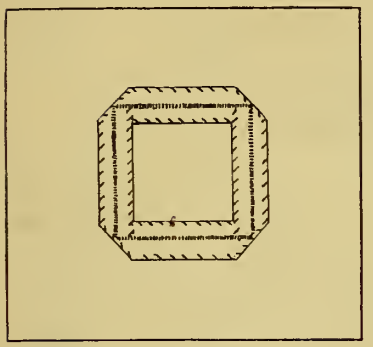

FIG. 35.—OVERHANDED PATCH. (WRONG SIDE.)

In placing the overhanded patch on wool material, warp ravelings of the cloth may be used for the sewing instead of split silk.

PRACTICE.—If material needing repairing cannot be provided, take a piece of striped or figured cotton or wool material. Crease it through the center along warp and woof. (See General Rules.) Indicate on it in pencil or by basting the shape of a hole or worn part. Cut a small hole in the center (if one is not already worn) large enough to insert the scissors. Consider the size of the place to be repaired; the size of the patch to cover such a hole would be (1) the dimensions of the hole just mentioned; (2) the folds on all four sides, *i. e.*, ¼ of an inch allowed on each side for the turning back of material after the patch is sewed on; (3) ¼ of an inch on each side of the patch to allow for turns. Taken together these amounts equal the size and shape of the repairing piece. This is for plain material that does not fray, larger seams must be allowed for loosely woven material. Figured material needs special consideration in matching the pattern. Prepare the patch and finish the work according to the rule.

SUGGESTION.—See under Patching on page 92.

FLANNEL PATCH.

USE.—As flannel is not liable to fray, the raw edges of the garment and the patch may be held down with herring-bone stitches and still be sufficiently strong.

RULE.—The hole should be cut clear of frayed material (it is usually square or oblong). The patch should be cut from ⅜ to ½ an inch larger than the hole, be placed directly over it without turning in any of the raw edges and be basted into place. Care must be taken in matching the right side of the flannel, the warp, woof and ply. The patch should be held in place on both right and wrong sides by a fine herring-bone stitch (see directions) over the raw edges of the material. The stitch is usually strong enough if it goes through the material on one side only, and on the other side if it goes into but one thickness of flannel. For turning the square corners, see Fig. 42. The repairing thread is usually cotton or silk.

Practice.—As the herring-bone stitch will later be practiced in the Sewing Course, it is not necessary to make a special practice piece for patching flannel unless the worker desires to do so.

Stockinet and woven underwear may also be patched by using the herring-bone stitch.

Suggestion.—It is well for a class to practice on the repair of knitted underwear using the herring-bone stitch over the raw edges.

DAMASK PATCH.

MATERIALS FOR PRACTICE.

Damask,	Flourishing Thread, No. 1000.	Needle, No. 10.
4x4 Inches or any desired size.	Ravelings of Damask (warp.)	Fine Darning.

1x1 Inch or depending on the size of the hole.

Application.—On napkins, doilies and covers brought from home.

Use.—Repairing tablecloths, napkins and household linen, especially in fine closely woven damask.

Varieties.—Damask patching should be as neat and invisible as possible on both sides of the material. The overhanded and felled patch (see Rule for Hemmed Patch) is frequently used, but shows too much for fine damask. The wrong side of an overhanded patch (see directions) is unsightly and therefore not fitted for table covers or napkins. When the hole in fine damask is not too large the pattern may be darned in. (See Weaving and Darning.) When a slit has been made in it the wrong side may be held together by overcasting, pressed open, and ravelings of the damask may be woven back and forth over the place on the right side, repeating the pattern as far as possible. After washing and careful pressing, this repair should show very little. When there is a good-sized hole in fine damask, a strong and neat patch may be inserted by fine drawing. (Fig. 36.) The stitch may be used alone or combined with darning.

Fig. 36.—Fine-Drawing.

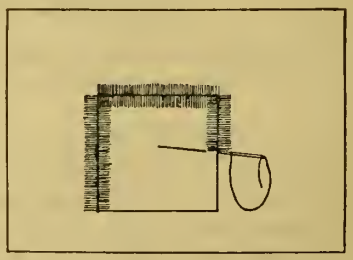

Fig. 37.—Darning by Fine Drawing.

Rule for Patching by Fine-Drawing.—The damask should be as soft as possible; it is therefore well to wash new or stiff material. Cut away the

worn parts. The usual shape is square or oblong. Cut the patch exactly the size of the hole, being careful to match the pattern, right side of damask, etc. (See General Rules.) Place the patch in the hole. If the damask is fine in quality and woven very close, fine-drawing alone may be used to hold the patch to the material. It is a simple, alternating stitch (Figs. 36 and 37) made toward the worker or away from her as in herring-bone. It is used frequently to hold together heavy cloth or selvages (see Suggestion for Seams). The stitches are usually made a little distance apart and slanting like a lacing (Fig. 36), but may be made close together and straight (Fig. 37).

In cheaper qualities of damask, fine-drawing should be combined with darning for holding together the patch and the material. The darning should begin beyond the hole and the stitches and the loops where the thread turns back should be buried in the material as much as possible. When the darning stitches are within a few threads of the hole, fine-drawing should be taken over the edge on one side and under the edge, the same distance, on the other, continuing the darning in the damask on the other side. The darning stitches should end as irregularly as possible. The fine-drawing must be directly along warp and woof, to show as little as possible (Fig. 37) and it must alternate in succeeding lines. The corners should be made secure by crossing the warp and woof darning at these points. If carefully done this darn should show little when the damask has been laundered. It is not as strong as the overhanded and felled patch (see Rule for Hemmed Patch), but is more satisfactory in appearance for fine damask. A fine darning needle is sometimes used in place of a sharp needle in this patch. Fine-drawing is also used for cloth patches.

Practice.—Take a piece of damask 4x4 inches, cut a hole in the center. Cut a patch the same size and darn it in by fine-drawing alone or by fine-drawing and darning, according to the quality of the damask.

Suggestion.—See under Patching, page 92.

CLOTH PATCH

MATERIALS FOR PRACTICE.

Wool or Worsted Suiting, 4x4 Inches. Ravelings of Cloth or Silk, No. A. Needle, No. 7-11.
Size of patch depends on the kind of patching selected.

Application.—Garments of wool or worsted brought from home.

Use.—For repairing outer garments of wool or worsted.

Cloth may be repaired in many ways according to the quality and value of the material and the wear which it will have to endure. The Overhanded Patch (see directions) is frequently used for light-weight cloths. Heavy cloth may be repaired by fine-drawing (see Damask Patch) by burying the stitches in the thickness of the cloth and drawing them close together so the break will be almost invisible. Thin cloth, such as ladies' cloth, which may be too clumsy to turn into folds, may have the patch darned in.

Darned-in Patch for Cloth.—The very worn part should be cut away (the hole is usually made square or oblong and cut clean. If it will show less

with irregular edges they should be left and carefully darned down.) The patch may be cut the same size as the hole, and darned in, or it may be cut ½ inch larger than the hole. The pattern, the right side of the cloth, the warp, woof and ply, must be matched (see General Rules). When the patch is cut larger than the hole it should be laid over it on the wrong side and basted down. Turn the cloth to the right side and with ravelings of the material or with split silk of a shade darker follow the pattern as nearly as possible, darning the raw edges down to the patch. The stitches should be as invisible as the strength needed will allow. Turn to the wrong side and herring-bone the patch to the cloth. The stitch should not go through to the right side. This patch is similar to the one described under Rules for Darning Woven Material, Practice in Cashmere (4).

Stitched Patch for Cloth.

Use.—For a patch which will show little but will bear hard wear.

Rule.—This patch closely resembles the overhanded patch, but is stitched instead of overhanded. The stitch, therefore, does not show on the right side. Cut the worn part away. The hole is usually made square or oblong. Nick the cloth in each corner and turn back good folds (¼ to ½ an inch). Cut the patch as for the overhanded patch (see directions). Lay it flat on the back against the turned-back folds on the edge of the hole. Pin it or baste it in place. Stitch the folds to the patch on all four sides. When the stitching is done press open the seams on the wrong side. This will turn the patch back on itself. Miter the cloth in each corner of the patch so it will lie flat. The wrong side of the stitched patch will look very much like Fig. 35, except the seam will show no stitches and the turned-back corners of the patch will be mitered instead of square.

Practice.—Take a piece of cloth, 4x4 inches. Examine the weight and quality of it, decide on the kind of patch best adapted to it and repair accordingly.

Suggestion.—See under Patching, page 92.

Nos. 43 and 44. FEATHER OR CORAL AND CHAIN STITCHING.

MATERIALS FOR PRACTICE.

Striped French Flannel. (½ inch stripe) 4x4 Inches. Silk (color of the stripe). No. A—B. Needle, No. 8-9.

Application.—On underclothing, baby clothes and small articles such as collars, cuffs and cases.

Term.—The term Feather Stitch is derived from the graceful form of the stitch. Coral stitch is a more angular variety of it.

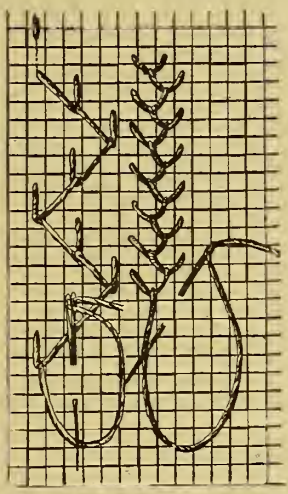

Fig. 38.—Feather Stitching.

Fig. 39.—Fancy Feather Stitching.

Use.—An attractive stitch for ornamenting all kinds of needle-work.

Fitness.—The form is attractive and can be modified to suit different occasions. It can be merely ornamental or can be made strong enough to hold down a hem in place of the hemming stitch.

Rule.—The work is done on the right side of the material, toward the worker. In the single varieties of it the stitch is taken alternately on the left and on the right side of the pattern. The thread is caught in a loop with each stitch as in the blanket-stitch. The number of threads taken up each time depends on the pattern chosen. Feather stitching proper is taken diagonally across warp and woof threads. (Fig. 38.) In the coral stitch variety the needle goes along a thread of the material. (Fig. 38.) (In the design the coral stitch is made double.) The stitch must be made accurately to look well. The width and relation of one stitch to the other never varies during the progress of the work. The position is over the first finger or first two fingers of the left hand. The work is begun with a knot or an end of thread

may be left on the wrong side to be sewed down afterward. The needle is brought to the right side and inserted again a few threads distant, but on a direct line horizontally. The stitch is left loose while the needle is brought out a few threads below and caught through the loop in the thread. The variety in form is made by this downward stitch; it may be made vertically along a thread of the material or may be inserted diagonally toward the center of the pattern. A new stitch should begin at the same height as the bottom of the last on the opposite side of the pattern. (Fig. 38.) In fastening off take the thread to the wrong side and finish with a couple of backstitches under the last stitch, or, if using heavy crochet cotton, leave the end to be sewed down with fine cotton. In taking a new thread fasten securely and bring to the right side through the last loop. Each of the single varieties may be varied by taking from two to four stitches on a side. When this is done the stitches must be placed close together (Fig. 39), or a straggly effect will result. The patterns may be again varied by uniting them with other fancy stitches such as the chain stitch and French knot.

Practice.—Take striped flannel, 4x4 inches. Four varieties of stitches are to be placed between the stripes (in every other one the flannel being cut between the stripes). The work should be fine and dainty and the stitches may be arranged in the following order—(1) a row of chain stitching down the center (Fig. 41); (2) the single feather stitching made diagonally across the threads (Fig. 38); (3) the single coral stitch (Fig. 38); (4) two rows meeting of fine treble feather stitching (Fig. 39).

Suggestion.—Canvas may be an aid in learning feather stitching, and the details can be grasped by quite young children, but fine work on garments requires expert handling. The stitch is used on all materials and may be worked in embroidery cotton, crochet cotton, silk, linen or wool. It makes a very attractive trimming for underclothing; strips and bands may be finished with it in place of stitching. In connection with drawn work beautiful effects can be obtained for children's clothing, underclothing or household uses. Many useful little articles can be made and ornamented with feather stitching.

SMALL TRAVELING CASE.

Take a piece of linen or soft colored cotton material such as chambray 9x6 inches. At one end of it cut from each corner a triangle which will be 1½ inches on its straight sides. Make a crease across the material ½ inch below the triangles. This will form the lap which will fold over the bag. (Fig. 40.) Make a narrow hem on the raw edges all the way around the piece and some variety of feather stitching just inside of the hemming, about ⅜ of an inch from the edge. (Fig. 38.) Turn the piece wrong side out and fold it together so that the straight end meets the crease across the material below the triangular cuts. Overhand the sides together to make the bag. Turn the right side out and let the lap fall over the pocket.

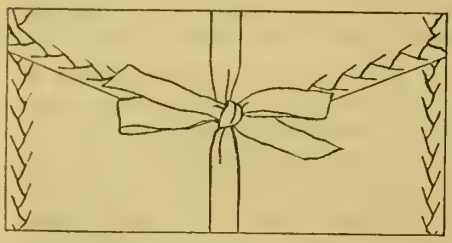

Fig. 40.—Flat Traveling Case.

Sew a tape or ribbon to the hem at the center of the lap and tie it around the case (Fig. 40), or sew flat linen or lace buttons to the pocket below the lap on either side of the middle of the front and make loops of buttonhole-stitches in the lap to fasten over the buttons.

COVER FOR TRUNK TRAY.

Measure the length and width of a trunk tray or of the bottom of a bureau drawer. Add 2½ inches to the dimensions in each direction to allow for the hems and cut from soft finished cotton material or from denim. Turn one inch hems up on the right side of the material (two opposite sides first and then the ends over them). Square the corners, overhanding the sides, or miter them according to Miter No. 2. (See No. 5.) Choose a variety of feather-stitching (see No. 43-44) or the herring-bone (see No. 45) and hold the hems down with it instead of the hemming stitch. Work on the edge of the hem, but not extending beyond. The stitches should continue to the end of the hems in order that they will cross each other at right angles at the corners. This cover can be made in small size (⅛ of the usual dimension) to serve as an example of the use of the stitch, if the teacher wishes to place it in an interleaved copy of the Sewing Course.

Such covers are very useful for they keep the clothing in place and clean in travelling and the bottom of the drawer neat when at home. A soft green chambray with white feather-stitching is serviceable, but white soft finished cotton cloth ornamented in colored stitches is more attractive. The children should measure, select materials and stitches and decide on cost.

APRON. (See Whipped Hem.)

The hems on each side and across the bottom of this apron can be held down by feather-stitching instead of hemming.

CHAIN STITCHING.

Use.—As an ornamental finish on material and for marking linen.

Rule.—The stitch is made vertically and should be very regular. It is in the form of the links of a chain. (Fig. 41.) The needle is put back into the material in the same place, from which it came out. One stitch is taken directly below the other (toward the worker) and the thread is caught under the needle with each stitch. (In this way it resembles both the feather-stitch and the blanket-stitch.) Chain-stitch machines reproduce this appearance. The position is the same as in feather-stitching, but in each stitch the thread is held in place by the thumb. (Fig. 41.) Begin and end as in feather-stitching. The stitch must not be drawn too tightly.

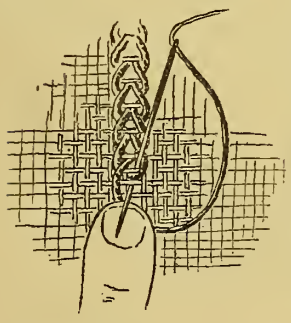

Fig. 41.—Chain Stitching.

Practice.—(See Practice, Feather-Stitching.)

Suggestion.—The stitch may be utilized in the classes on such articles as towels, napkins, bags, underclothing and face cloths, where a letter can be drawn and the chain stitch used for outlining it. Cotton in fast colors should be used for this marking, and the stitch should be made small.

No. 45. HERRING-BONE.

MATERIALS FOR PRACTICE.

FLANNEL, $5\frac{1}{2}$x$2\frac{1}{4}$ INCHES (two pieces). SILK A. COTTON, No. 60. NEEDLE, No. 9.

APPLICATION.—On flannel skirts, a flannel patch or as decoration.

USE.—(1) To hold down hems, seams and raw edges in flannel and other woolen materials, so that they may felt when washed and thus not ravel. (2) A means of lightly holding down materials of all kinds in place of hemming. (3) An ornamental stitch.

FITNESS.—Material made of wool is apt to shrink in washing. Ordinary stitches are unnecessarily strong and when used on wool would cause the material to draw after washing. The looseness of the herring-bone, combined with the natural felting of the flannel, makes the stitch a serviceable one for woolen fabrics. The attractive form, easily adapted to various positions, makes this stitch also useful as an ornamental finish.

RULE FOR HERRING-BONE.—The herring-bone (also called catch-stitch) is worked from left to right, or away from the worker. It is a sort of cross-stitch taken alternately from side to side. The position is over the first two fingers of the left hand. The form of the stitch may vary greatly in the length of the slanting line which connects the crosses on either side, and also in the distance apart of the crosses. When the stitch is once started the width of it and the relative position of the cross stitches on either side must remain the same. In the most usual form of the stitch the crosses on one side come exactly between the crosses on the other side, so that the bottom of the stitch on one side is directly opposite the top of the stitch on the other. On the wrong side of the cloth the stitch looks like two lines of running-stitches. Begin at the extreme left of the material, and bring the needle through where the work is to begin. In each stitch the needle points directly toward the worker. Make an upward slanting stitch toward the left (or right, as the case may be), insert the needle in the material and bring it out directly along the warp or woof threads in as deep a stitch as desired. Take now a slanting stitch upward toward the opposite side on a line above the point where the work began, and bring the needle out the same depth as the first stitch on the opposite side and on a line with the top of that stitch. Alternately take the stitch from side to side, preserving carefully the same width, the same depth of the stitches and the bottom of one cross-stitch directly opposite the height of the one on the other side. The stitch may be begun with a small carefully concealed knot or an end of thread may be left and sewed down afterward. In a hem a double stitch may be used on the wrong side for beginning, ending, and taking a new thread.

FIG. 42.—HERRING-BONE.

In a flannel patch (see directions) the herring-bone stitch is used over the raw edges of the patch and of the garment. To make the corners of the patch neat the stitch should be turned carefully. (Fig. 42.)

Rules for Seams and Hems in Flannel.—Flannel has a right and a wrong side. In making up a garment the ply or nap should run downward. When joining seams, the ply must run the same way on both sides of the seam and the same side of the material must be turned outward (opinion differs as to whether the full ply side of the flannel should go next to the body). The felting property of the flannel makes it unnecessary to make a very strong seam. The running-stitch, with an occasional backstitch, is strong enough. A hem does not usually need to have two turns. The raw edge may be worked across with the herring-bone stitch alternately in garment and fold and be amply strong. The stitch taken in the fold may or may not go through to the right side of the flannel, according to the strength required. In a seam three methods of using the herring-bone are seen. (1) The seam is pressed open and the herring-bone stitch is made on either side over the raw edges. This method is strong and attractive, but takes time to complete. (2) A fell (see directions) is made in place of the ordinary seam and the broad fold is herring-boned down over the raw edge. This is a rapid and usual way of proceeding on ordinary garments. (3) The seam is pressed open and one row of herring-bone stitches placed down the center of the seam. This is a usual way of finishing flannel seams, but is not as desirable as the others, as the real object of the stitch is not accomplished, *i. e.*, to hold down the raw edges of the flannel so they may felt in washing.

Practice.—Take two pieces of flannel 5½x2¼ inches. Select either the first or second kind of seam described and put together the two pieces of flannel according to the rule. Cotton, crewel or silk thread may be used for the stitch. It should be made small and neat and should go through to the right side of the material on one side only. Turn up at the bottom of the flannel a one-inch hem and hold it down with the herring-bone stitch. Both sides of the stitch should go through to the right side.

Suggestion.—The first practice on this stitch may be on canvas to obtain clear ideas of its shape and size. It may be made in this way by young children. Older pupils may begin on the canvas, if necessary, but should soon practice on flannel. It requires much care to keep the stitch even.

Small flannel skirts or little sacks may be made and finished with the herring-bone stitch.

The stitch is used in a variety of ways. In dressmaking or repairing it is used to hold parts of materials together, such as canvas, velveteen and wool materials to linings. It is used in mending worn silk by making a network of it on the wrong side, and in patching wool materials it holds in place the raw edges of the repairing piece. It is also used in millinery in place of hemming, and in fancy work it has been adapted to a number of purposes, such as shadow embroidery in which the herring-bone stitch is made on the wrong side of sheer material and only the small stitch at each side goes through to the right side. A soft shadowy effect is thus made which adapts itself to interesting designs.

It is frequently called catch stitch instead of herring-bone.

Nos. 46 and 47. HEMSTITCHING. DRAWN WORK.

MATERIALS FOR PRACTICE.

LINEN (very fine and sheer), COTTON, No. 100-150. NEEDLE, No. 10-12.
4x4 INCHES.
LINEN (moderately fine for drawing threads),
5x4 INCHES.

APPLICATION.—On handkerchiefs, collars and cuffs, towels, doilies and fancy articles.

USE.—For an ornamental finish for hems on handkerchiefs, household articles, such as towels, bureau scarfs and table covers; bed linen; fine baby clothes and underwear. Designs in Drawn Work more or less elaborate are used to decorate surfaces as well as hems. Hemstitching is used as a foundation for these designs.

RULE FOR HEMSTITCHING.—There are many ways of making the stitch which are equally good. Some of the more rapid ways do not hold the threads as distinctly apart as the slower ones. The method selected is strong and satisfactory. In hems for handkerchiefs it is not desirable to draw many threads as the washing will loosen the undrawn ones and keep the stitch from looking distinct. Each stitch should have a clear wedge-shape. Determine the width of the hem and draw out carefully several threads from the material where the double fold of the hem will come (*i. e.*, allow for double the width of the hem and also for the little fold on the edge). Turn a hem on the linen to the edge of these drawn threads and baste carefully. If corners have to be folded the drawn threads in the hems will be double. The corners need not be mitered. Unnecessary material may be cut from underneath (see Miter No. 1), the ends squared and overhanded neatly. Begin as in hemming on the wrong side of the material. Decide the number of threads to be taken up each time and keep to that number (it is not necessary to count the threads, the eye may be the guide). Fasten the thread in the fold without a knot. Hold the work as in hemming or turn the hem toward the body and draw the stitch well up to it. The object is to keep each stitch distinct from the other; some workers prefer one position and some another. Put the needle under the number of threads selected and bring it out without catching it in the threads. Put it back over these same threads and under again as at first, but this time the needle should go through the folded hem beside the last thread. (Fig. 43.) The following stitches are taken in the same way. In hemstitching the corners of handkerchiefs more threads must be taken as the threads here are double. Make the hemstitching in the corners look as distinct as possible.

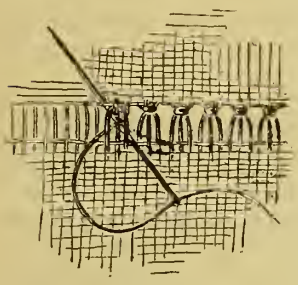

FIG. 43.—HEMSTITCHING.

RULE FOR DRAWN WORK.—The basis of drawn work is hemstitching. The threads are drawn and fastened down on each edge with hemstitching. They may then be fastened or woven together in various ways to form a lacework.

The following description is of three simple patterns. No. 1.—Draw ⅛ of an inch of threads, hemstitch across both edges taking up the same threads on each side. The effect will be a series of upright posts. No. 2.—Draw a little over ⅛ of an inch of threads. Make a double row of hemstitching as in the first pattern. One thread will connect the entire line in the finishing of the pattern. To accomplish this fasten the thread in the middle of the first bar or post, put the needle across two bars beyond, let it go over the third, then under, and back first over and then under the second. This will twist the third bar over the second with the thread through it. Twist the fifth bar over the fourth the same way and continue across the drawn threads. Fasten off in the last bar. No. 3.—Draw ⅛ of an inch of threads, hemstitch across one side. On the other edge take for the first stitch but half of the stitch below; for the second, make one stitch out of the halves of two of the stitches below. This will give a sort of herring-bone effect. These three patterns may make an attractive border by leaving ¼ of an inch of plain material between them.

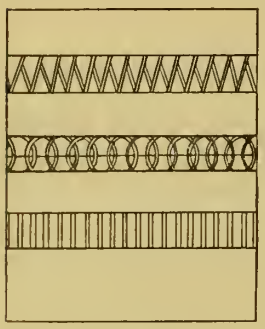

Fig. 44.—Drawn Work.

Practice.—First practice piece. A small hemstitched handkerchief. Take sheer linen 4x4 inches. A half inch hem is to be placed on all four sides. Allow for the hem and small fold in the material (1⅛ inches) and draw threads (between 1-16 and ⅛ of an inch in fine material), on all four sides. Turn in a hem to the drawn threads. Baste carefully, especially at the corners, cut out some of the material from under them if necessary (Miter No. 1), but square and overhand them neatly. Follow the rule for hemstitching.

Second Practice Piece.—Take linen 5x4 inches. A 1 inch hem is to be placed at the bottom and several rows of drawn work will ornament the material above the hem. The hem will be held by one pattern. Draw ⅛ of an inch of threads 2⅛ inches from one end. Fold the hem to the edge of the drawn threads and baste carefully. Hemstitch the hem down with a moderately fine stitch. Complete the opposite side of the drawn threads according to the pattern described under No. 1. Skip ¼ of an inch of linen and use No. 2 for the second pattern; again skip ¼ of an inch of linen and use No. 3 for the final design. Fine feather stitching may be placed on the plain linen between the patterns, if desired.

Suggestion.—Hemstitching may be learned very readily on canvas. It may be used in a number of ways. Coarse linen for toweling may be purchased and little towels with hemstitched hems may be made by the children. Simple drawn work may also be used in this way. The towels may be marked by using cross stitch, chain stitch or satin stitch for the letters. A letter may also be embroidered on the handkerchief.

All the hems in the apron described under Whipped Hem may be hemstitched. The stitch may also be used on small sheets, pillow cases, collars, cuffs and lingerie. Rows of simple drawn work with feather stitching between make a most attractive finish for small linen articles such as cases of various kinds, bureau covers and tea table linen.

No. 48. WHIPPED HEM

MATERIALS FOR PRACTICE.

It is well for children to hemstitch the center of a handkerchief before the corners, as the latter are more difficult. Careful basting makes the work easier.

NAINSOOK, 1x13 INCH. COTTON, No. 100. NEEDLE, No. 11.

APPLICATION.—Aprons, underclothing and baby clothing.

USE.—For gathering muslin, gauze, lace, net and other soft materials.

FITNESS.—The raw edge of the material is rolled under and gathered at the same time. The stitch is particularly adapted to small ruffles of nainsook, cambric and other sheer muslins.

RULE.—Fine material is more easily whipped than coarse. The ruffles should be cut from selvage to selvage as the warp threads can be rolled more easily than the woof. The material should be cut to a thread. It may be torn into lengths and cut carefully afterwards. The strip for the ruffle is held with the wrong side toward the worker and the thumb and first finger of the left hand are used to turn the raw edge into a tiny roll. It is turned toward the worker. The thread is fastened in the end of the roll and three fine hemming stitches hold it in place. The whipping is begun by inserting the needle at the back of the roll in a slanting direction like an overcasting stitch and bringing the needle out (toward the worker) just under the roll. (Fig. 45.) The roll must never be caught with the stitch or the ruffle will not draw up well. The stitches must be very regular and not too close together. After an inch or so is whipped, gather up the ruffle on the thread and continue the rolling and whipping. The stitch is sometimes made by inserting the needle first at the front of the roll instead of at the back.

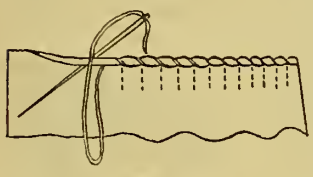

FIG. 45.—WHIPPED HEM.

It is better to use fine strong thread and not to take it too long, as the whipping thread is apt to break. The ruffle is usually cut twice or a little more than twice the length of the band. In sewing a whipped ruffle to a band, both ruffle and band should be divided into halves and quarters and matched the one to the other. Either the band or the ruffle may be held toward the worker. In the latter case, however, it is easier to regulate the ruffle. The overhand stitch is used to sew the ruffle to the band. The stitch must be taken so that the thread will fall into the notches between the whipping stitches.

PRACTICE.—Take 1x13 inches of nainsook. Roll and whip the edge according to the rule. If the ruffle is to be put to use, the hems should be put in before the whipping is done. This ruffle may be overhanded to the bottom of the apron described below.

SUGGESTION.—The whipped hem is less used than formerly. It is, however, an economical as well as strong way of neatly trimming underclothing. From ¼ to ¾ of a yard of nainsook will trim a night-gown.

Embroidered edgings of various kinds can be whipped and used on different pieces of small underclothing to give practical application to the classes. Little pillowcases or aprons can also be made and trimmed with whipped hem ruffles.

SMALL APRON OF FINE MUSLIN

MATERIALS FOR PRACTICE.

DIMITY, NAINSOOK OR BARRED MUSLIN.
5x6½ INCHES.
6x1 INCH (band).
6x1¼ INCH (2 pieces for strings).

COTTON, No. 100.

NEEDLE, No. 11.

Put ⅛ inch hems along the 5-inch sides of the muslin. Take a ¾ inch hem at the bottom. Gather and stroke the top (see Running Stitch). Prepare the band for a Stitched Band (see Putting on Band). Draw the top of the apron in to 3 inches, stitch it to the center of the band, hem down the other side of the band to the gathers and overhand the sides of the band to the end. (See Application of Stitches—Aprons.) The strings may be prepared by putting narrow hems on the long edges and turning ½ inch hems at one end, the other ends will be inserted in the bands.

This apron should apply some of the fancy stitches. A whipped hem ruffle can be overhanded to the bottom; hemstitching can be used in place of hemming or the hems can all be held down with feather stitching. Each child should select her own method of finishing her apron. The materials are given for a doll's apron, but the teacher must use her discretion in giving a full-sized apron in place of the small one.

No. 49. CROSS STITCH.

MATERIALS FOR PRACTICE.

Penelope Canvas or Scrim, 5x5 Inches	Colored Wool (Crewel or Saxony.) Colored Silk EE.	Tapestry Needle.

Application.—On towels, sheets, washcloths and household articles.

Use.—For marking underclothing, holding bands to the seams of waists in dressmaking, and for an ornamental finish in fancy work.

Fitness.—The form is attractive and the work is rapidly executed and sufficiently enduring for the purpose.

Rule.—The stitch is double and consists of two slanting parts crossing each other on the right side of the material, and of two straight lines, which may be either vertical or horizontal, on the wrong side of the material. The points of the cross on the right side should, if enclosed, form a perfect square. In canvas the stitch is usually two threads high and two threads wide. (Fig. 46.) The needle is brought out on one side and put through to the other diagonally—this forms one half of the stitch. It is now crossed in the opposite way. In a design the crossing must all be in the same direction and the wrong side must be neat. It is better to leave an end of thread to be worked over by the stitches than to begin with a knot. The fastening off can be done in the same manner. In marking, each cross stitch should be finished separately and the thread should not be carried from one letter to another.

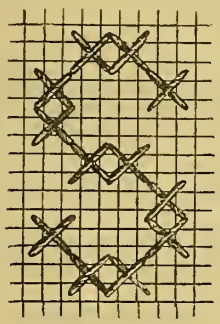

Fig. 46.—Cross Stitch.

It is well to practice on canvas before marking linen. Designs for the letters can be purchased or they may be originated by the worker. A piece of fine canvas or of coarse scrim can be basted to the linen over the place where the letters are to go. The cross stitches can be made on this canvas to keep the form accurate and when the letters are finished the threads of the canvas can be pulled out, leaving the design on the linen.

Practice.—Take a piece of Penelope canvas or of scrim 5x5 inches. Turn a ¼ inch hem on all four sides and hold it down with the cross stitching, alternating two cross stitches above and two below to make an ornamental finish on the edge. Care must be taken to adjust the stitches neatly at the corners; an extra stitch can often be taken here with good effect. On the inside of the square place the initials of the name and the year or other letters and figures may be made in cross stitches.

Suggestion.—It is unnecessary for anyone to make the entire alphabet on the canvas as designs can be easily procured and the work is not difficult.

This stitch is an excellent one for children in early grades to use on burlap. It allows of so much variation that they can easily invent designs of their own. It can be used to hold down the hems in cheese cloth dusters. In later grades it may be used for marking little sheets, pillow cases and

towels. Care must be taken to choose a cotton thread for marking which will stand laundering.

In dressmaking the cross stitch is used to make the inside of a waist attractive and, at the same time, to hold the belt to the seams. The stitch is made in silk of a color to match the silk seam binding, the overcasting, or the fans of stitches on the bone casings.

Nos. 50 and 51. SATIN STITCH. TYING FRINGE.

MATERIALS FOR PRACTICE.

LINEN. 6x6 OR 10x10 INCHES

COTTON, No. 100. D. M. C. No. 25-60 FOR EMBROIDERY. No. 16 FOR THE FILLING.

NEEDLE, No. 8-10.

(Two letters stamped in the center or at the end.)

APPLICATION.—Letters on handkerchiefs and household linen, decoration and lettering on underclothing, decoration on collars and cuffs. Fringe on towels and doilies.

USE.—For marking handkerchiefs and household linen and for ornamenting clothing, table covers and ecclesiastical draperies. It is used on all materials.

FITNESS.—The close over and over stitch with or without a previous preparation in filling makes a substantial design which will wear for years and have a chaste and beautiful effect.

RULE FOR SATIN STITCH.—Satin stitch (Fig. 47) requires patience to learn and skill in the working. It is usually worked in a frame. Hoops may be purchased in which the work may be stretched. For the marking of household linen, in letters of from one to two inches in size, it is possible to do good work without a frame. The stitch may be either flat or raised. In letters it is customary to fill in well the parts enclosed in double lines. The preparation must be done with the greatest care and precision as irregularities in the padding show in the finished work. Some workers begin by following all the lines of the design with a short irregular running stitch which takes the slightest hold in the material and leaves the most of the stitch on the surface. When the design is in double lines the stitch is taken just inside of the marking. In padding the space between the lines the outline

stitch (Fig. 48) or the chain stitch (Fig. 41) are both used. The work must be done in the opposite direction from the satin stitch and be kept within the stamped lines. The lines of padding are made up and down within the space, and one row fits exactly into the other. The number of lines of padding is increased where the letter widens and decreased where it narrows. In a wide portion several rows of stitches may be piled one on top of the other so that a rounded effect may be secured. Where veins occur in a leaf or a letter the line is left clear, but the surface is well padded alongside of the vein. Finish all the filling of the letter before beginning the satin stitch. The whole effect of the padding should be neat and compact, but the linen must not be drawn.

FIG. 47.—*a*, FILLED; *b*, STRAIGHT SATIN STITCH; *b*, SLOPING SATIN STITCH.

The satin stitch is taken from side to side of the design and toward the worker. Very little material is taken up where the line is single. When the line is double the stitch is taken from line to line. Where veins occur the stitch will be taken from the outside to the vein or from the vein to the outside, according to the direction of the work. The stitches should be close together without overlapping. The padding must be completely covered. The stitch may be at right angles with the lines of the pattern or it may be slanted in either direction. When the letter has been begun, however, the same slant must be kept throughout, except where it has to be temporarily altered at the curves. The usual direction is at right angles with the lines of the design, *i. e.*, directly across the pattern. Where there are curves in the design, the stitches will need to be crowded on the inner side, but no gaps must occur in the outer edge. The work must be as smooth on the wrong side as on the right. Where single lines occur the satin stitch is also used. A very small hold should be taken in the linen and the stitches should have a smooth, cordlike effect. The irregular running stitch taken in the filling will help to secure the effect if it is carefully done.

Begin the satin stitch at the extreme end of some part of the pattern. To fasten the thread take a running stitch through the design to the point of beginning. If it is a curve care must be taken to keep the stitch continually in the same relation to the pattern. Bring the needle to the right side and put it back directly opposite. Let the stitches closely follow one another. Draw them close that the outline may be clear and the work firm. The work should appear in the end like a solid mass and not have individual stitches pushing themselves into view. Finish off the thread in the work and begin another carefully either by a running stitch in the unfinished part or concealed in the finished work. Where a letter is not continuous the thread must not be taken across underneath from one part to the other unless the distance is almost imperceptible, but the thread must be fastened off and the work begun again. It is usually well to pad with rather fine embroidery cotton, as, with beginners, coarse cotton will often push up between the stitches. The experienced worker judges from the character of her design. Fine embroidery cotton should be used for the satin stitch on fine linen.

RULE FOR TYING FRINGE.—Draw a number of threads in the material where the top of the fringe is to come. The tying should be done before

raveling out the entire fringe. Fasten the cotton first in the solid material just above the drawn threads, and then in the drawn threads. The linen is laid over the first finger of the left hand and held tightly with the thumb and the second finger. Lay the cotton straight along the drawn threads, put the needle on the left side of the cotton, pass it under several of the drawn threads, bring it out under the right side of the cotton and draw it up tightly to hold the threads. This will make a tie in the cotton. Continue this on the four sides. Some prefer to hold the tied fringe close under the solid linen, others leave a small space between. For ordinary linen No. 100 cotton is fine enough for the tying. When it is finished, fringe out the linen.

Hemstitching is sometimes used to hold the fringe in place of tying. A small overcasting stitch may also be used to keep the fringe neat when it is laundered; the effect is not, however, as good as the hemstitching or the tying.

Practice.—Take a piece of linen 6x6 inches. It should be moderately fine and the threads should draw easily. If desired a piece of linen 10x10 inches can be made into a face towel. Two letters from 1 inch to 2 inches in length should be clearly stamped on it. These letters should not be elaborate. The old English text is good. Carefully pad between the double lines and use the irregular running stitch on the single lines. Embroider the letters with the satin stitch according to the rule. When the letters are completed, draw five or six threads (on all four sides) about ¾ of an inch from the raw edges. These threads should be tied before fringing (see Rule for Tying Fringe). When the threads are tied cut the raw edges carefully so they may be perfectly even, and draw the threads up to the tie.

Suggestion.—Satin stitch for marking and fringe tying for the raw edges may be used on small towels, table cloths, napkins and doilies. The French convent embroidery used on underclothing is to a great extent made up of satin stitches, combined with French knots, blanket-stitches and others. Garments simply decorated in this way should be brought to the classes if possible and discussed. Art lessons should be utilized for designs for collars, cuffs, underclothing and blouses. The flax flower lends itself well for this purpose and linen is an excellent center for correlation with geography, history, art and home.

No. 52. EMBROIDERY ON FLANNEL.

BLANKET STITCH, OUTLINE STITCH, SATIN STITCH AND FRENCH KNOT.

MATERIALS FOR PRACTICE.

Flannel, 5x5 Inches. (A scalloped edge stamped on two sides and some simple designs in the center.)	Silk, No. B-E. Wool or D. M. C. No. 16.	Needle, No. 6-8. Tapestry Needle.

Application.—On a small flannel petticoat or baby sack.

Use.—A scalloped border of blanket stitches is used to finish the raw edges of many articles of flannel. It gives both beauty and durability to the raw edge and takes the place of a hem in heavy material which is too thick to fold well. Small geometrical or flower designs are embroidered on infants' sacks and petticoats for the purpose of decoration.

Rules.—*Scallops in Flannel* are made with the blanket stitch (Fig. 23). The outer edge should be firm and substantial (see Blanket Stitch.) A padding of wool or cotton may be made before the blanket stitch is used. Wool is well adapted to the flannel, as it shrinks in laundering. An irregular running stitch, leaving most of the wool on the surface, is good for this purpose. The outline of the scallop and the space between may be filled according to the raised effect desired. The stamped form of the scallop must be carefully preserved. Very few filling stitches should meet where the design is narrow. A heavy silk such as No. E or No. EE is used for the edge.

Designs on Flannel are principally worked with the satin stitch. It is seldom necessary to pad. Stems and outlines are made with the Kensington outline stitch instead of with the satin stitch as on linen. Small flowers and leaves may be merely outlined or the satin stitch may be used to cover the entire surface. In designs like the daisy form the satin stitch may begin at the center of each petal and be worked toward the edge, or a radiating stitch from the center out may be used. French knots are frequently used in flannel for one side of a leaf or flower, or for the centers of flowers.

Kensington Outline Stitch. The outline stitch follows a traced line and is made away from the worker (Fig. 48). The needle is brought out at the end of the stem or line, a long stitch is taken ahead on this line and a short stitch back through the material. The stitch back may be made either to the right or to the left. The length of the stitch may vary according to the requirements of the design. The stitch resembles the backstitch turned wrong side out, *i. e.*, the rope-like effect is on the right side of the material and the little stitches with a space between are on the wrong side. Where a very substantial stem is needed the outline stitches can be made very close together. The work is held over the first or first two fingers of the left hand.

Fig. 48.—Outline Stitch.

The French Knot. These are made in various ways. One way in general use is to fasten the thread well and bring the needle out in the spot

where the French knot is to be. Put the needle down to this place, wrap the thread two or three times around the needle, draw it so that the twisted thread is around the needle close to the spot intended for it, insert the point of the needle in the material at this same place, and holding the thread tight, fasten the knot down to the material by drawing the needle and the length of the thread through to the wrong side.

Practice.—Have a piece of white flannel 5x5 inches stamped near the raw edges with a plain scallop on one side and a triple or fancy scallop on the other. In the plain space between have a few simple sprigs stamped (such as conventional leaves and flowers). Use the blanket-stitch for the scallops; the satin stitch for the leaves and flowers; a close outline stitch for the stems, and the French knot for the centers of flowers or for one half of some of the leaves. A number of French knots may be made close together to cover a surface.

If the practice piece is to be retained, cut the flannel close to the scallop on one side to show the completed effect and leave the flannel below the scallops on the other side to show the way the work has been done. In making garments the flannel should be washed to allow for the shrinking before the material below the scallop is cut away.

Suggestion.—Some article such as a small flannel skirt should be made by the pupils. In place of having the flannel stamped in scallops a five or ten cent piece may be laid on the flannel and half circles drawn regularly across the sides. These may again be joined by a smaller inner circle. Designs for the edge may be drawn by the children. The drawing teachers in schools should prepare the classes for adequate designing for the decoration of their clothing. Very attractive yet simple designs may be made and directly utilized on garments. Linen book covers and portfolios may be designed and embroidered in the same way that flannel would be.

Nos. 53 and 54. COUCHING AND APPLIQUE.

MATERIALS FOR PRACTICE.

Linen or Unbleached Sheeting, 6x3 Inches.	Mercerized Yarn, Scotch Floss, or Jute Threads, several strands.	Needle, No. 6.
Material in Contrasting Color, 2x2 Inches.	Silk, B or C.	

Application.—Decoration of table covers, scarfs and bags.

Use.—Couching is a decorative stitch for outlining a pattern. It is frequently used in place of the outline-stitch to cover the cut edge of applique work and, at the same time, to hold it down to another material, and also to make a foundation over which other stitches can be worked, as in Venetian embroidery. In the latter, the blanket-stitch is made over the couched cord to obtain a design in high relief.

Applique is the laying of one piece of material upon another. It takes the place of solid embroidery in a design. Couching is very generally used in connection with it. Both couching and applique are largely used in historic national embroideries, and have been used by many primitive people. They can be utilized to advantage in the schools, even with young pupils.

FITNESS.—The soft rope-like appearance of couching makes an attractive outline and also a good covering to the edge of materials. The stitch which crosses the cord not only satisfactorily holds down the materials beneath, but lends itself to excellent decorative effects. The ease and rapidity with which beautiful results can be obtained by the use of various materials cut into designs and laid on other cloth makes applique a valuable, economical and artistic means of decoration.

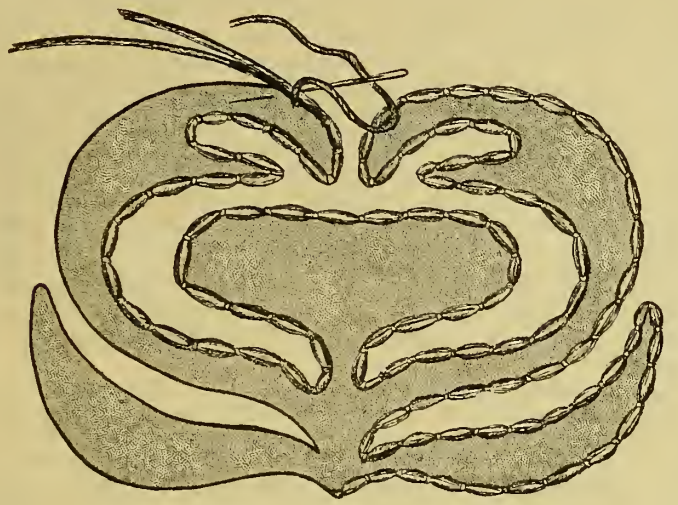

FIG. 49.—COUCHING.

RULE.—Couching is a species of overhanding, or of over-casting, made over a cord or group of threads into the cloth beneath. The strand or strands must be as long as is needed for any part of the design where no break in outline can occur without injuring the pattern. The strands are held close to the outline or the edge of the pattern. If the couching is to cover another material which is to be appliqued by it to the foundation, the cord must completely cover the raw edges. The stitch which holds down the strands is made across the cord at right angles to it and into the cloth beneath. The distance between the stitches is a matter of choice, or according to the importance of this stitch across the cord as strengthening the applique beneath. To finish the end of the cord when the termination of the pattern is reached must depend on the wisdom of the worker. The strands can be the same size throughout and be held down so neatly and yet strongly that the raw ends of thread will not show; or they can be reduced gradually until invisible; or a hole can be made in the material below and the cord can be fastened securely on the wrong side; or the ends of the strands can be pushed under the applique and fastened. Innumerable threads and yarns are used for the cord, such as crewel, filoselle, mercerized yarn, jute and various wools. The

cross thread can be made of a contrasting color. Several lines of couching can be laid side by side, and the cross threads can be used to attractively vary the pattern, by such effects as diaper and basket designs. The strands can be wound into a disk and the cross-stitches can be made an attractive feature. Couching is also used as a basis for work with another stitch. In Venetian embroidery it provides the foundation over which a close blanket-stitch is made. The pattern is thus thrown into high relief.

Applique is made of many materials, such as silk, velvet, linen, denim and others. The design is made first on paper; this is cut out and serves as a pattern for the material which is to be used for the applique. If the material is inclined to fray, it is well to make the design in thin paper, cut it out and paste it on the back of the cloth before cutting the latter. The design is then laid on the foundation material and basted or pasted in place. The latter way is used if the pattern is very elaborate, or if it has large stretches of plain surfaces. Wrinkles and bubbles in the design interfere with the beauty of the solid embroidery effect. When the pasting on of a design is finished, it should be put under a press until dry. The couching and other needlework can then be done upon it. In heavy or stiff materials the double pasting is not necessary. In such simple applique as would be done in most elementary and high schools the thin paper design can be pasted, if necessary, to the cloth, but when this is cut it can be basted to the foundation, instead of pasted. In place of applique, the foundation cloth is often painted or stencilled, and couching, outline or blanket-stitch used to finish the edge.

Practice.—Make the design for the applique and have the color scheme and the materials worked out carefully; the foundation, the applique and the cross threads must all be considered. Unbleached color in the foundation lends itself to good effects in dull oranges, brown, blues and greens in the applique. The strands for the cord may match the ground, or the applique, or may contrast, and the over-casting of silk may be an additional decorative feature. When these points have all been settled, take foundation material 6x3 inches, and the design on thin paper which will occupy a space within 2x2 inches. Cut out the design, paste it lightly and carefully, that no strain may go through, on the back of the material for the applique. Press it until dry and smooth, cut out the pattern, lay it on the foundation toward the end and a little to one side, and baste it in place. Take several strands of the yarn selected. Begin the work of couching at a part of the applique where the fastening down will show least; push the ends under the applique, and begin to overcast the strands through the applique and the foundation. Be careful to keep the overcasting stitches near enough together and on the edge of the pattern that the outline may be perfect.

Suggestion.—This stitch is useful even in early grades, as it is simple and may be quickly executed. The art teacher can unite with the sewing teacher in obtaining good designs; the cutting and pasting are good exercises in themselves;; and many articles can be attractively decorated. Work bags, sofa cushions (large or small), table covers, bureau scarfs, and dress trimmings can be adapted to pupils from the fifth grade through the high school. It is possible to use couching even in earlier grades, as it is similar to the coarse towel weaving which is adapted to young pupils. Excellent color schemes can be worked, and very beautiful articles made at little expense.

DRESSMAKING.

SEWING ON BRAID, BINDING SEAMS AND FINISHING WAISTS.

Application of the Principles of Dress Construction.—Dressmaking is a subject for the high school rather than for elementary education. Some experience of it, though, is well in the seventh and eighth school years, especially in some localities. The pupils are thus enabled to be of use at home and in case they do not continue their education into the high school, but must go to work early, the experience may help them in their business life. Doll's and children's clothing and the making over of garments offer opportunities for using some of these principles. Simple clothing can be brought from home or the entire class can work together on one garment (either new or old). This can later be used for exhibit or be devoted to some worthy object. If the higher grades have some practice in these principles the practice pieces will not be necessary in the high school, for the pupils can go to work immediately on their own garments.

In making and repairing garments in the home a knowledge is needed of accepted ways of sewing certain parts. It is well for the teacher of sewing to give attention to this even if she does not expect to teach regular dressmaking. There are many ways of doing these necessary parts of garments, but it is only possible in the following suggestions to give a few of these. Work of this kind requires great care. The stitches need not be as small and accurate as in plain sewing, but they must be strong and firm. Success depends on the careful handling of the material that it may not be stretched, on the accurate union of parts and on the all-important pressing.

Nos. 55 and 56. SEWING ON BRAID AND VELVETEEN.

MATERIALS FOR PRACTICE.

Cashmere or Cloth, 4x4 Inches.	Cotton No. 50, or	Needle, No. 8.
Cotton Skirt Lining When Desired, 4x4 Inches.	Silk No. A, or	
Mohair Skirt Braid, 4½ Inches.	Buttonhole Twist D, or	
Bias Velveteen, 4½ Inches.	Linen Twist A.	

(The color of the braid and velveteen should either match or be in harmony with the cloth.)

Use.—To protect the edge of the skirt.

The bottom of a skirt may be finished in various ways. Binding with braid or velveteen is the general usage. If the former is used it should be a strong mohair braid and not the ordinary skirt braids which soon wear out; if the latter, care again is needed to procure a good quality, as much of the velveteen for sale is worthless for this purpose.

Braid should be shrunk before using it on a garment or dampness may cause it to do so later and thus draw the skirt out of shape. There are various methods of shrinking the braid; such as plunging it in lukewarm water for a few minutes and then shaking it out, putting it in boiling water and then drying it, or sponging it with water and afterward ironing it dry.

Skirt braids and veleteens are better sewed on by hand than by machine, as the dust is less apt to catch in the stitches and wear them out.

Rule for Sewing on Braid.—(1) When there is a lining in the skirt the following method is often used. Turn up the bottom of the skirt the required length and hem the lining down over it. The lining when hemmed should be ¼ of an inch above the bottom of the skirt. Lay the braid flat on the wrong side of the skirt, letting it drop ⅛ of an inch below the bottom. Run it on with an occasional backstitch ¼ of an inch from the bottom of the braid, being careful not to take the stitch through to the cloth on the right side. Hem the opposite side of the braid to the lining (some workers prefer to use the running-stitch here also, as they consider it wears better, being more protected than the slanting stitch over the edge of the braid). To join the ends of the braid lay one end 1½ inches over the other end. Turn each raw edge in ½ inch so that one will lap in the other. Overhand the folds at the bottom and hem the upper braid on the lower. Or sew the two ends together ½ inch from the raw edges. Turn back each end and hem or overcast it to the braid beneath that no raw edges will be exposed. Press carefully.

(2) Where there is no lining in the skirt or where there is a drop skirt, the bottom is turned up the required length and finished with a hem or facing, varying in depth from 1½ to 4 inches. To protect the edge of this hem, a mohair braid may be placed at the bottom. Allow the edge of the braid to extend about 1-16 of an inch below the hem. The upper edge of the braid may be fastened to the hem by a running or hemming stitch. If greater strength is needed put a second row of stitches at the lower edge also, being careful not to take them through to the right side. Press carefully.

(3) Braid may also be sewed on so that it will have the effect of a fold at the bottom of the skirt, as in the velveteen binding. The skirt and the lining must be cut even and the braid laid on the right side of the skirt with its edge even with the other edges. The braid is sewed on by machine ¼ of an inch from the bottom through the lining and the skirt. It is then turned back with all the raw edges underneath and hemmed to the lining or the skirt on the wrong side. The fold of the braid should extend ⅛ of an inch below the skirt to protect it. Press carefully.

Rule for Sewing on Velveteen.—Cut the skirt and lining, if there is one, even all the way around. Turn them about ½ an inch so the skirt will be the desired length, and hem the raw edges to the lining. Press carefully. Lay the velveteen on the bottom of the skirt with its right side against the wrong side of the skirt. Let ¼ of an inch of the velveteen lie on the skirt and the rest extend below. Run it by hand to the skirt ⅛ of an inch from the bottom. Turn the velveteen back so that the fold will drop ⅛ of an inch below the finished edge of the skirt and baste it in place. Turn in the opposite edge of the velveteen ¼ of an inch and hem it to the skirt or to the lining (it is sometimes herring-boned without turning in the edge). Join the ends of the velveteen by allowing ½ inch more than the circumference of the skirt and sew the two ends in a bias seam.

PRACTICE.—Take 4x4 inches of some wool material, use it single or line it with an appropriate cotton lining. The piece thus made is to be bound on each end of the length of the material. On one end place the mohair braid and bind according to one of the ways suggested under Rule for Sewing on Braid. The opposite end is to be bound with bias velveteen according to the Rule.

Nos. 57 and 58. PLACKET AND POCKET FOR WOOL DRESS SKIRT.

MATERIALS FOR PRACTICE.

HEAVY CLOTH,
4x2½ INCHES (2 pieces),
5x1½ INCHES (2 pieces, selvage).
LINING IF DESIRED,
4x2½ INCHES (2 pieces).
BINDING, 6 INCHES,
OR
CASHMERE,
4x2½ INCHES (2 pieces),
3x2 INCHES (2 pieces) AND
LINING, 3x2 INCHES
(OR 3x4 INCHES AND 3x2 INCHES).
LINING IF DESIRED, 4x2½ INCHES.
BINDING, 6 INCHES.

COTTON.
(See directions under Sewing on Braid and Velveteen).

NEEDLE.

Plackets in dress skirts are made in various ways according to the requirements of the garment and the materials of which it is made. They are similar to the ones used in cotton fabrics (see Plackets) but demand a slightly different treatment.

RULE FOR PLACKETS.—The opening in a dress skirt should be only long enough to allow it to slip on easily. It is usually placed down a seam. In heavy cloth two selvage strips of the material ½ an inch longer than the opening and 1½ inches wide are used for the lining and the underfacing or the fly of the placket as the material is heavy enough without a lining. Light weight wool materials such as cashmere and challie have not substance enough to be used without lining. These plackets may be treated in two ways. (1) Two pieces are cut ½ an inch longer than the opening. One piece is intended for the fly or underfacing of the placket; it is cut lengthwise of the material and may be lined with the dress lining or cut double and folded back lengthwise on itself; the second piece is to face the upper side of the placket. It is often cut crosswise of the material. (2) One long piece, twice the length of the opening, may be cut and turned back on itself (see Placket No. 3, Finish No. 2).

The method of proceeding with dress plackets cut in two pieces is the following: The seam of the dress should be open, having previously been pressed. The right side of the opening is to lap over the left side. (Opinions differ as to the side which should lap over the other.) Take the strip which is to line the upper side of the placket. Lay it on the right side of the

material and seam it to the opening a little way within the former seam, turn it back to form a facing on the wrong side and hem it to the lining or to the skirt. This side will lap over the other. As the seam has been made a little within the pressed line of the former seam, it will not show. Turn to the left side, take the piece for the fly (the selvage strip, the double strip or the lined strip) and lay it on the left side with the right sides of the cloth together. Stitch into a seam a little within the pressed line of the seam, turn the seam back and let the added piece of cloth lie flat under the right side of the placket. Bind or overcast the part of the seam below the opening(see Binding Seams). At the bottom of the opening the fly must be fastened to the upper facing and both must be fastened to the dress lining or skirt without going through to the right side. Lay the fly flat on the facing and stitch them together at the end of the opening. The ends below the stitching may be finished in three ways. (1) If the cloth is strongly woven some of the material under the fly may be cut away and the raw edges of the fly herring-boned or hemmed to the lining of of the dress. (2) If the cloth is light in weight, turn the fly back in a fold and fasten it to the seam of the skirt, or (3) cut the raw edges of the fly and the upper facing even and bind them across with silk binding. The seam containing the fly can be bound its entire length with silk binding or it can be overcast.

Practice.—Take two pieces of cloth or cashmere, 4x2½ inches, leave them unlined or line them with cotton skirt lining according to the prevailing fashion. Stitch together (either by hand or machine) the two pieces in a good seam. Press the seam open. The opening for the placket can now be made down the seam 2¼ inches. The way to proceed with the rest of the placket depends on the cloth chosen. If it is a strong suiting use selvage strips of cloth and follow the rule in completing the placket. If a soft flimsy wool has been chosen the underfacing or fly can be lined with the dress-lining. In most wool materials a double strip of the material may be used for the underfacing. Follow the rule in completing the placket. Bind the seams with silk binding or overcast them.

Rule for Pockets.—Ways of cutting and inserting pockets should also be discussed by the classes. They may be cut in two pieces in a bag shape with one side straight and the other curved, with the opening on the straight side; or they may be cut in two pear-shaped pieces and one piece laid on top of the other with an opening cut in the center of one of the pieces. The length is about 13 or 14 inches. They are set into a seam of the skirt or in a slit in the material. A bag pocket would have its opening two or more inches below its top. Pockets are faced inside with the material of the dress. This facing should extend back, above and below the opening at least two inches, so that the inside of the pocket will not show if open a little. When the pocket is made it is turned wrong side out, put through the opening of the seam prepared for it, and seamed on the wrong side to the skirt in the fold of the seam. As small a seam should be taken from the pocket as the need of strength will allow, so that it will close better. This is especially the case at the top and the bottom of the pocket seam. The seams should be pressed open and bound or overcast. A ribbon or tape should be sewed to the top of the pocket and fastened to the belt to sustain the weight and keep the pocket in shape. When the pocket and the placket are on the same seam the former usually extends to the belt and does not need the tape or ribbon. The upper part of the seam of the pocket should be carefully sewed by hand to the skirt, as the tapering off of the seams makes it rather weak at this point. The

lower part of the seam may also be sewed by hand, as too deep a seam causes the pocket to flare open. The material of the pocket should match the skirt, but it must be a fast color or the contents of the pocket will be injured. Percaline is good for this purpose as the light side can be the inside of the pocket.

PRACTICE.—A class should cut full sized pockets in paper, or, if they need practice, they can be made in any available material. If the teacher wishes an example of a pocket for her interleaved copy of the Sewing Course she can make a small one and insert it in the placket (see No. 55), or she can make a separate pocket. It is better for the classes to make full sized pockets.

No. 59. FRONT OF WAIST. HOOKS AND EYES.

MATERIALS FOR PRACTICE.

DRESS MATERIAL, COTTON. NEEDLE.
4x3 INCHES (2 pieces). (See directions under Sewing on Braid, etc.)
WAIST LINING (Percaline or French Cambric).
4x2¾ INCHES (2 pieces).
BONE, 4 INCHES (2 pieces).
HOOKS AND EYES (small size), 4.

RULE.—The front of a waist is frequently held together with hooks and eyes. These may be placed (1) on the lining alone, if the waist material is to be entirely separate and fastened on one shoulder covering the opening completely, or (2), if the waist material is to be opened down the front, a facing of the cloth should be placed on the lining and extend a couple of inches back from the hooks and the eyes on each side to make a neat appearance, if the waist material should open, or (3), in case of a waist plainly fastened in the front, the hooks and the eyes would be fastened on the lining, the cloth of the waist would be folded back on itself and slip-stitched or hemmed to the lining in such a way that when the waist was hooked the folds of the waist material would meet and cover the hooks and eyes.

In each case the lining would be treated in the same way. It should be an inch wider on each side than the meeting of the parts would require. Turn the lining back on itself one inch on the wrong side and stitch a casing from one end to the other, wide enough to hold the bone (the bone will be the height of the dart). In order to make the bone-casing firm it is well to put another line of stitching along the edge of the waist that the bone may be snugly enclosed between two stitched lines. Spring in the bone and fasten it securely at either end (through the bone or above and below it in the material.) When hooks and eyes are to be sewed on it is well to put a piece of crinoline under the lining turning it back with it. The bone can be slipped in the crinoline and the hooks and eyes can be sewed through it and have a strong foundation. Sew the hooks and eyes on the wrong side alternately unless hump hooks are used, at equal distances on the lining, or through the dress material and the lining if the sewing will be covered by the trimming on the outside of the waist. The hooks should be ⅛ of an inch back from the edge and the eyes ⅛ of an inch over the edge, so the dress will exactly meet. Turn the remainder of the lining back over the hooks and eyes to make a neat finish and hem it down; or cut away all superfluous material and cover

the raw edges, the hooks and the eyes with galoon or silk bone-easing, hemming it down on both sides. If the waist front is to be untrimmed the dress material must be folded back to entirely cover the hooks and eyes. The material should be cut to extend well beyond the easing. Turn under the raw edge on each side back on itself allowing the fold to extend far enough beyond the edge of the bone-easing so that it will completely cover the hooks and eyes when they are fastened and under strain. Slip-stitch in place.

Sewing on the Hooks and Eyes.—An over and over stitch is usually better to hold the hooks and eyes than the buttonhole-stitch, as it is firmer The metal loops are made for the stitches. In beginning to sew on either a hook or an eye it is well to take two stitches in one loop and then two in the other to hold it in place and then return to sew around each loop and across between the loops, drawing the thread very tight. In addition to this the eyes should also be held down on each side just above the loops and again near the edge of the material, and the hooks should be sewed across the shank near the turning back of the hook.

Practice.—Take two pieces of waist lining 4x2¾ inches, finish them according to any of the three suggested ways. Take small black hooks, instead of a larger size generally used in waists, so they will be less apt to injure the bristol-board in the interleaved edition of the Sewing Course. Put on four hooks and eyes, alternating them at equal distances on the practice pieces.

Nos. 60 and 61. BONE CASING. SEAM BINDING.

MATERIALS FOR PRACTICE.

Dress Material, 4x2½ Inches (2 pieces).
Waist Lining (Percaline or French Cambric) 4x2½ Inches (2 pieces).
Whalebone, 3⅛ Inches.
Silk Binding, 10 Inches.
Galoon or Bone Casing, 6½ Inches.
Silk No. A.
Cotton No. 50
(To match Dress material.)
Needle, No. 8 or 9.

In the finishing of a waist the putting in of the bones and the binding of the seams are very important. After the waist is put together the seams must be cut even and notched in certain places, especially in curved seams in order to fit into the figure. One notch is always made at the waist line almost up to the sewing. A couple of notches should be made above the waist line in seams which are considerably curved. The edges of the notch may be curved to aid in the binding. The seams must be dampened (dipping the fingers in water and passing them over the seam is often better than to use a wet cloth), and pressed open to see if they lie flat before binding them. A narrow pressing board and an iron for seams aids in the work.

Binding Seams.—The raw edges of the seam may be finished in several ways. (1) The dress material and the lining may be overcast together. (2) The dress material and the lining may be turned in on each other and either overcast or run together. The seams must be made wider if this means is to be used than for Nos. 1 and 3. (3) The seams may be bound with a soft binding ribbon. The ribbon is folded on either side of the raw edges of the

seam. In order to accomplish this most easily the ribbon may be creased along its length so that one side is slightly deeper than the other. It may then be laid over the raw edges of the seam with the shorter side toward the worker and both sides may be held by one line of running-stitches. The ribbon should be held easily around the curves so they will open well.

Bone Casings.—Many kinds of bones are used for waists. It is generally conceded, however, that whalebone is the best, as it is thinner and more flexible than the others. Cased bones can be purchased, but they are not considered as satisfactory as making the casings and inserting the bones. Bias binding or strong narrow ribbon bindings are the most desirable. The ribbon casing should be eased on all the way and slightly fulled directly above and below the waist line. The bones are put in usually to about an inch below the height of the dart. If they are placed too high they will push through. In order to keep the bone from rubbing through the waist lining a pocket is made at the top of the casing by turning the ribbon back from ¾ to 1 inch and overhanding the sides of it. The casing is sewed to the turnings on either side of the seam below this pocket. The middle of the casing should come directly over the seam. The ribbon casing is usually hemmed or run on both sides, the bias casing may be sewed the same way or the herring-bone stitch may be used across the casing from side to side. This makes an attractive finish. A bias casing does not need to be fulled on. The casing should be cut long enough to allow for the pocket at the top and for ½ inch extra at the other end. The bone is cut a little longer than the place it is to occupy. The ends should be rounded. After the casing is sewed on, the bone is put in from the bottom and pushed or sprung in tight into the pocket, the extra ½ bones may be soaked in water and a needle can then easily pierce them, or holes may be pierced in them with a hot needle before inserting them in the casing. The bone may be sewed down with fan-shaped stitches at the top of the casing or a couple of strong stitches to the right and to the left over the casing and into the turned back material of the seam may be taken just below inch of casing is turned in over the bone and the casing sewed closely to the seam. The bones also must be fastened to the seam at the end of the pocket and ½ inch from the bottom of the bone. To provide for this the whale- the pocket. It must also be sewed down ½ inch from the end of the bone. In short bodices the end of the bone should come about ¼ of an inch from the lower edge. The bottom of the waist should be turned up and sewed firmly to the bones before the facing is finished. (The facing may be sewed to the bodice by machine before the latter is sewed to the bones.) The facing will then be hemmed into place. In a long bodice the bones need not be carried far below the waist line.

Practice.—Take two pieces of dress material 4x2½ inches and line them with waist lining. Lay the cloth sides exactly together. Crease a vertical line through the four thicknesses ½ an inch in from the right hand side. Crease another line, at right angles to the first, 1 inch from the bottom to indicate the waist line. Measure ⅛ of an inch in from the intersection of these lines and make a curved line from the bottom to the top of the vertical crease passing through the ⅛ of an inch point on the waist line. This line represents the curved seam in a waist. Stitch the pieces together in a seam along the curved line. Either the hand or the machine may be used. Trim the edges to ½ an inch from the seam. Make a notch at the waist-line to within ½ of an inch of the seam and two other notches about 1 inch apart, above the first. Round off the edges. Press open the seams and bind the raw

edges according to the rule. In putting the bone easing down the seam allow for a pocket of ¾ of an inch at the top and ½ an inch at the bottom. Let the bone end ¼ of an inch from the end of the seam. Cut the bone 3¾ inches in length. Finish all according to the rule.

No. 62. SLIP STITCHING.

MATERIALS FOR PRACTICE.

CASHMERE, 5x3 INCHES.	SILK A. (To match cashmere.)	NEEDLE, No. 10.

APPLICATION.—In neckwear, trimming for hats, or folds on dresses.

USE.—In dressmaking and millinery to hold two edges of cloth together; to hold down a hem where the hemming-stitch would show too much, or to fasten on trimming such as bias bands, cording and folds.

FITNESS.—The stitch is almost invisible and is well adapted to dressmaking and to millinery.

There are many forms of the stitch adapted to various requirements.

RULE.—The form of the stitch is like the running-stitch (Fig. 50). It will hold material securely and yet be almost invisible on the right side. The material or the hems to be slip-stitched down must be carefully prepared and basted in place. The thread must be securely fastened. The stitch is made on the wrong side of the material well under the edge of the fold. The fold is turned back a little with the finger and a long running stitch is taken through the fold and then into the material catching but a couple of threads and not going through to the right side of the cloth. It continues with a long stitch in the fold and an almost invisible one in the material. In millinery the stitch may be drawn in such a way that the fold may be fitted into a place, yet the material will not look wrinkled. Fine needles are used in slip-stitching. The work requires practice and neatness of touch.

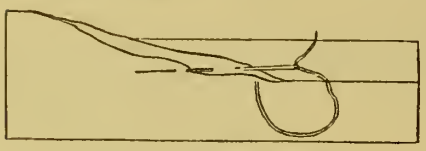

FIG. 50.—SLIP-STITCHING.

The same form of slip-stitch is used combined with a backstitch, where a fold is to be held on the outside of a gown. The stitch is taken on the right side of the material well in as well as under the fold so it will not show, but a good hold is taken in the material under the fold.

Another form of the stitch is called slip-hemming. It is used to hold the raw edge of a fold to the material when the double fold used in hemming would show through. The edge of the material is folded over once. A stitch is taken, resembling the herring-bone, but is made from right to left and does not have the crosses. The stitch is like a running stitch. It is first taken in the fold above the raw edge and then below in the material, but in the latter a very small hold is taken, so it will not show on the right side of the cloth.

PRACTICE.—Take a piece of cashmere 5x3 inches. Turn a hem of ½ an inch along one long edge. The first turn of the hem must be about ⅜ of an inch, baste this down ¼ of an inch from the edge of the fold when turning the ½ inch hem. Slip-stitch the hem to the cashmere under the edge of the fold according to the rule.

PRICES OF MATERIALS.

	Width or Size.	Price.
Beeswax		$0.50 lb.
Binding—		
Seam		.10 piece
Velveteen		.25 "
Bone Casing		.15 "
Braid—		
Skirt	½ in.	.05 "
Narrow	¼ "	.17 for 24 yds.
Mohair	⅝ "	.15 piece
Burlap—		
Cotton	48 "	.90-1.25 yd.
Jute	26 "	.35 "
Buttons—		
Pearl		.10- .20 doz.
Bone		.20 gross
Shoe		.07 "
Canvas—		
Java	18-36 "	.45- .70 yard
Penelope	24 "	.17- .25 "
Aida	18-36 "	.20- .30 "
Scrim, heavy	40 "	.35 "
Cotton Cloth—		
Batiste	40 "	1.00 " up
Cambric	36 "	.15- .25 "
Canton flannel	27 "	.15 "
Chambray	27 "	.25 " up
Cheese cloth	36 "	.07- .10 "
Damask (Mercerized)	48-16 "	.40- .60 "
Denim	32 "	.22 "
Dimity	27 "	.12½- .25 "
Drilling	30 "	.12- .18 "
Gingham (apron)	24 "	.08-.12½ "
Gingham (dress)	27 "	.12½- .50 "
Lawn	24-36 "	.10- .75 "
Muslin, unbleached	36 "	.07- .15 "
Muslin, white	36 "	.10- .20 "
Nainsook	36 "	.15 " up
Nearsilk	36 "	.25 " "
Organdie	27 "	.25 " "
Percale	36 "	.12½ " "
Percaline	27 "	.22 " "
Sateen	27 "	.20 " "
Ticking	32 "	.18 " "

	Width or Size.	Price.
Cotton Thread—		
Basting	No. 16-50	.24 doz.
Clarks, O. N. T	No. 24-150	.62 "
Darning		.24 "
Embroidery, D. M. C	No. 16-60	.15 "
Emeries		.50 "
Kindergarten Cards	No. 183	.25 pkg. 100
Lace—		
Torchon	½ in.	.12 yard
Valenciennes	½ "	.25 piece
Insertion	½ "	.25 "
Beading	½ "	.25 "
Linen Cloth—		
Batiste	25-37 "	.25- 1.00 yard
Butchers	24-44 "	.40- 1.50 "
Canvas	45 "	.50 "
Crash	18-36 "	.10- .36 "
Damask	54-72 "	.75- 3.00 "
Diaper	24 "	.50- .75 "
Laces	½-2 "	.10- .75 "
Lawn	18-36 "	.25- 2.00 "
Toweling	18-36 "	.25- 1.00 "
Linen Thread—		
Barbours		.10 spool
Scotch Floss		.25 hank
Needles—		
Bodkins		.10 per paper
Fine darning (crewel)	No. 8	.45 doz. "
Hammock		1.00 "
Large darning double long	No. 6a	.10 per paper
Milward sharp	No. 5-12	.45 doz. papers
Tapestry	No. 17-21	.45 " "
Paper—		
Colored	6x6 in.	.25 100 sheets
Drafting		10.00 large roll
Engine	6x6 "	.25 100 sheets
Sheets	20x24 "	.04 sheet
Striped tissue	30x20 "	1.75 ream
Pincushions		.50 dozen
Rulers		.50 "
Scissors—		
Blunt	4-inch	1.60 "
Button-hole		2.00-4.50 "
Sharp points	5-inch	3.20 "
Shears		5.60-9.00 "
Paper shears		1.25 pair
Silk—		
China	24-27 in.	.50- 1.00 yard
Crepe de Chine	24-36 "	1.00 yard up
Foulard	27-36 "	.50 " "
Gros grain	24-36 "	1.00 " "

	Width or Size.	Price.
Silk—		
Louisine	24-27 "	1.00 " "
Pongee	24-36 "	.55 " "
Satin, cotton back	24-27 "	.50 " "
Satin, silk back	24-27 "	1.50 " "
Surah	24-36 "	.75 " "
Taffeta	18-27 "	.75 " "
Silk Thread—		
Sewing	A-B	.80 dozen
Twist (Buttonhole)	D-E	.45 "
Embroidery	E-EE	.85 "
Tape—		
Cotton	1¼ in.	.10 piece
Cotton	½ "	.10 "
Cotton, bobbin	⅛ "	.10 dozen
Tape Measures		.40- .60 "
Thimbles—		
German Silver	No. 5-9	.45 "
Aluminum	"	.30 "
Brass	"	.12 "
Celluloid	"	.36 "
Whalebone		.25 piece
Wool Cloth—		
Albatross	45 in.	1.00 yard up
Alpaca	42 "	.75 " "
Broadcloth	52 "	2.00 " "
Cashmere	42 "	.75 " "
Camel's Hair	45 "	1.00 " "
Challie	27 "	.35 " "
Checks	54 "	.75-1.50 " "
Cheviot	52 "	1.00 " "
Bunting	18 "	.50 " "
Doeskin	72 "	4.00 " "
Felt	45 "	.65 " "
Flannel	24-36 "	.25 " "
Granite cloth	40 "	.75 " "
Henrietta	36 "	.75 " "
Homespun	42 "	1.00 " "
Ladies' cloth	54 "	1.25 " "
Melton	54 "	2.00-6.00 " "
Merino	42 "	.75 " "
Mohair	40 "	.75-3.00 " "
Voile	40 "	1.00 " "
Serge	40-44 "	1.00 " "
Poplin	40 "	.65 " "
Rep	36-45 "	.65 " "
Wool Yarn—		
Columbia		1.45 lb.
Saxony		1.50 "
Zephyr		2.20 "

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